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Saturday, February 8, 1851.

Ohio.

The southwestern quarter of this State is probably more actively engaged in the construction of railroads than any other portion of it, of equal extent. From its less intimate connection with New York, many of our readers have probably but little idea of the number, and forwardness of the railroads in that section.

The trunk line of these roads is the Cincinnati, Hamilton and Dayton, extending, as its name indicates, from Cincinnati to the latter place, a distance of 60 miles. Its course is almost directly north, following up the valley of the great Miami river, through a region of country celebrated the world over, for its fertility, and soon to be one of the most densely inhabited parts of the United States. This road is in a state of great forwardness, and a portion of it is to be opened on the first of July next. The stock of this road has been eagerly sought for by capitalists for investment. A large amount of its stock was subscribed in this city. It is doing the other roads of Ohio no injustice to say, that we know of no road either in that State, or in the United States, that promises a larger return upon its cost. With the same rate of charges as are adopted by our eastern roads, we have not a doubt that the net income would equal 15 per cent. This company, from the ample means at its command, has not been forced to call public attention to the merits of its road; consequently it has not attracted so much notice as other lines of much less importance.

Dayton, the present northern terminus of this road, will be the point of radiation of a number of lines of considerable importance. The elevation obtained at that point above the valley of the Ohio, renders it an easy matter to gain the table lands, which are altogether the most favorable for the construction of railroads. To this point the Mad river road has been recently extended from Springfield, a distance of 23 miles. This extension is now in operation. The extension of the Columbus and Xenia road from the latter place to Dayton, a distance of 15 miles, is soon to be commenced, thus connecting the Cincinnati, Hamilton and Dayton railroad with roads running to Sandusky and Cleveland.

On the west, the Dayton and Western railroad, running to Richmond, Indiana, and thence by the lines of that State, to Indianapolis, is under contract, and will be in readiness for the iron as soon as this can be procured. The distance from Dayton to the Indiana State-line is 35¼ miles. From thence to Richmond 4 miles. The completion of this line is the virtual extension of the Ohio Central line, and the Xenia and Columbus line, west, to Indianapolis and St. Louis, and this link, in one of the great chains of western railroad, bids fair to be one of the first, of those in progress, to be completed. The President of this road is P. P. Lowe, Esq., of Dayton.

The *Greenville and Miami Railroad*, intersects with the Dayton and Western railroad, 14 miles from Dayton, (using the latter for its trunk line for this distance,) and runs from thence to Greenville, the county town of Darke, a distance of 20 miles from the point of juncture, thence to the State-line 20 miles, thence to Winchester, Indiana, 10 miles more, there to connect with the Indianapolis and Bellefontaine railroad. This road is also under contract to the State-line, and is sufficiently advanced to warrant the purchase of its rails. The Dayton and Western, and the Greenville and Miami will thus bring Dayton into direct connection with the two lines leading to Indianapolis.—The President of this company is E. B. Taylor, Esq., of Greenville.

The above embrace we believe all the lines now in progress and terminating at Dayton. Upon the completion of the Cincinnati, Hamilton and Dayton railroad to that city, its extension further north will, we presume, be immediately commenced, and dividing, after reaching a certain point, into two branches, one running westward, in the direction of Fort Wayne, Indiana, and the other in the direction of Toledo.

At Hamilton, a road is in progress to Eaton, the county town of Preble, thence to the State-line and to Richmond. The length of this line is as follows viz:—to Eaton, 20 miles; from this place to the State-line, 16 miles.

We are not appraised of the exact state of the forwardness of this road, but the whole line, we believe, is under contract, and will, we presume, be in readiness for the iron the coming summer.

A road is also projected from Hamilton to the Indiana line, to unite with the road running west in this State, through Cambridge city and Connersville. We are not able to state the present condition of this line.

The above are the lines of railroad in progress and operation in the immediate valley of the Miami. There are other important lines in this portion of Ohio, but which are not intimately connected with those above enumerated; among which may be named the Hillsboro', and the Ohio and Mississippi. The president of the former of these is now in this city for the purchase of iron for the road, which is now in readiness to receive it. For the present, this line leaves the Miami road near the mouth of Obanon's Creek. The distance from the junction to Hillsboro, is about 40 miles. The road forms the westerly division of the Cincinnati and Belpre railroad, and will probably be consolidated with that company when the later shall have expended a proportionate amount according to its length of line.

The Ohio and Mississippi river, though a project of Cincinnati, has but a short part of its line in Ohio. Its object is to unite Cincinnati and St. Louis by the shortest possible line, in order to bring through the former the travel from the east. This is one of the greatest works yet projected in the west. The company is organized, but the work of construction has not yet been commenced. Cincinnati has voted $100,000 towards this work.

Memphis and Charleston Railroad.

We have read the first annual report of the directors of this important work, submitted at a meeting of the stockholders held at Huntsville on the 15th ult.

Among the most important measures adopted at the meeting was the final location of the road. The line selected runs from Memphis to LaGrange, Tenn., on an old grade constructed several years ago; from LaGrange to Tuscumbia; from Tuscumbia to Decatur, taking in the line of the Tennessee valley road; from Decatur to Huntsville; from Huntsville through Jackson county to an intersection with the Nashville and Chattanooga road, on or near Crow Creek, in the northeasterly corner of Alabama. The whole length of line is 281 miles.

In the location of the line there were of course many rival interests brought to bear upon the determination of the directors, but they were governed mainly by the results of the surveys, and adopted the one presenting the shortest and cheapest route. Huntsville is a point in the line by charter. In relation to the route adopted we give the followingfrom the report of the chief engineer.

From Huntsville to the Nashville and Chattanooga railroad, near the point where it crosses Crow Creek, is 60 miles, and will cost $617,619 70. No grade exceeding 42 24-100 feet per mile need be used and the curves will be as moderate as is at all desirable.

The country traversed is as fertile as any part of the Tennessee valley, and abounds in timber of the best quality for railroad purposes.

From Huntsville West, the cheapest and shortest line surveyed was that which crosses the river at Brown's Ferry, and strikes the Memphis and LaGrange road at LaGrange. By this route a road may be constructed from Crow Creek to Memphis in a distanee of 281½ miles, at a cost of $2,893,291 24.

Between Huntsville and Big Bear Creek, the grades and curvature will be the same as those east Huntsville, but between that creek and the Tuscumbia fork of Hatchee, grades of 52 8-10 feet per mile must be resorted to. These could not be avoided on any of the lines run through Mississippi. There is however one favorable feature on this line which does not exist on some of the others. This maximum of grade is confined to a short distance, and this space is more than 100 miles from each end of the road. By dividing this line into three equal parts, we will have about 93 miles for each division. This is as far as one locomotive ought to run, and by using heavier engines or running a greater number of trains on the middle division than on the other two, the 52 8-10 feet grades will be much less objectionable than if they were distributed over the whole extent of the road.

We will now proceed to compare each route with the onc just described.

The route through Athens, Florence and by the Line Ferry, will cost $849,949 79 more than the other, and would be 2 3-10 miles longer.

From Huntsville to Florence is 65½ miles, and would cost $860,556 21, which is greater than the cost of a line from Huntsville to Tuscumbia by $74,814 98. The cost of a bridge, and 5½ miles of road from Florence to Tuscumbia, would be $162,000. Therefore to go from Huntsville to Tuscumbia by way of Florence, would be a loss of 4 miles in distance, and an increased cost of $236,814 98.

If the Valley railroad is valued at $130,000, the amount now demanded by that company, the line from Huntsville to Tuscumbia, by way of Decatur, will not exceed the distance of the Brown's Ferry line by more than one mile, and will cost more by $50,000. If that company would take $60,000 for their road, the two lines would be equal in value. Something might be added to this sum for the value of their warehouses and other buildings, of which no estimate has bsen made.

The line surveyed through Holly Springs is 14 miles longer than the one thro' LaGrange, but it is confidently believed that this difference of distance could be reduced to 10 miles, but the cost of that line, must, in any event, exceed the cost of a line through LaGrange by $195,120 06. This route would be liable to another objection from the fact that our maximum grade would have to be used, in rising from the Chewalla to Holly Springs, which would defeat the plan proposed for the other route.

As a line of travel, the Memphis and Charleston railroad possesses an importance which can scarcely be too highly estimated. Without concert of design, in fact without even the knowledge, on the part of the different projectors, of what each other was doing, there has been a system of railroads laid out, which, when completed, may be called emphatically, the highway of nations. Much of this system is already completed, and every link in the great chain is now under regular organization and in rapid progress. Four years will not elapse before the greater part, if not the whole, will be in full operation. There are now, finished and in process of construction, railroads, forming one unbroken line, from Memphis to Boston—and this line may be called practically straight. It is, in fact, the shortest line on which a road could be constructed between those points, the natural features of the country not admitting a shorter one. It is truly wonderful that the merits of this route should have been so long unknown to the public, for Nature herself seems to have marked it out. Here is a line nearly straight, passing through the centre of the Union, on which the mountains have been levelled, as if by design. Though this line crosses all the mountain ranges, it encounters no grade, exceeding 68 feet per mile, and it is only on the Virginia and Tennessee railroad that this rate of ascent is used. The line generally follows natural valleys, where the grades are gentle and the work light. From Memphis to Lynchburg, a distance of 750 miles, the whole cost of constructing a road, of the most substantial character, and fully equipping it, will not reach $15,000 per mile, although 500 miles of that distance traverse a mountainous region. If this great line had its termini in Memphis and Boston, it might well be called a national work. But this is not all! There are two schemes recently put on foot, at the extreme points of this line, which must add greatly to its importance. One is the plan of a canal across the isthmus of Tehauntepec, which is now exciting much interest in New Orleans; the other is the "European and North American railway," which may date its birth from a convention held in Portland, Me., on the 31st of July last.

The immediate effect of the first of these schemes will be to make our road the channel of communication between our eastern cities (including the seat of government) and our possessions on the Pacific. And not only this, but our intercourse with China must be by this same route.

Careful surveys and examinations have fully established the feasibility of this scheme. The isthmus of Tehauntepec possesses a rich soil, salubrious climate and great variety of natural productions. The bar at the mouth of the Coatzacoalcos is as good as the one at the mouth of the Mississippi. The river itself is navigable, for 34 miles, for large vessels, and can easily be improved higher up. This river flows through a dense forest of oak, cedar, pine, iron wood, Brazil wood, mahogany and live oak.

On the Pacific side are two lakes, affording a commodious harbor; the interior is connected with the exterior by a communication called the canal of Santa Teresa, and the entrance from the ocean to the exterior lake is called the Bocca Barra. It is 150 miles from the Pacific to the Atlantic; being about 15 miles from the Bocca Barra to the ship landing.

From New Orleans to San Francisco, by the isthmus of Tehauntepec, is 1825 miles less than by the isthmus of Panama, and the saving of distance between New York and San Francisco would be 1400 miles, which will determine all these cities in favor of the Tehauntepec route. The distance from San Francisco to Bocca Barra is 2800 miles; from Bocca Barra to Coatzacoalcos, across the isthmus, is 150 miles; from the latter place to New Orleans is 900 miles. A traveller starting from New York, and passing over the Memphis and Charleston railroad, and, by this route, instead of the Panama route, will save 1600 miles of sea voyage on the Atlantic side, and 1300 miles on the Pacific side. In time of war, with a fleet to protect the gulf, the intercourse of the Atlantic States with California and China might go on with perfect safety through this interior route. These considerations should give New Orleans a deep interest in our road as that city must become the great entrepot of the trade and travel between the old States and San Francisco and China.

The journey from Memphis to San Francisco, by the proposed route, allowing two days and a half for the river boats, between Memphis and New Orleans, allowing for the ocean steamers, on the Gulf and the Pacific, 15½ miles per hour, which is the speed of the Cunard steamers, and allowing one day to cross the isthmus, would require thirteen days and ten hours, as may be seen by the following calculation:

	Miles.	Days.	Hours.
From Memphis to New Orleans	800	2	12
From New Orleans to Coatzacoalcos	900	2	10
From Coatzacoalcos to Bocca Barra	150	1	
From Bocca Barra to San Francisco	2,800	7	12
		13	10

The other scheme, which is to have such an important bearing on the prosperity of this road, is the "European and North American railroad." There is a line of railroads now in operation from New York, through Boston, to Waterville, Me., a distance 410 miles. This new company propose to extend this line through New Brunswick and Nova Scotia to Halifax, passing through the towns of Bangor, Calais and Truro.

This road will be 485 miles, and it will probably be extended hereafter to Cape Canso.

From Halifax it is proposed to run steamers to Galway Bay, on the western coast of Ireland, which will be crossed by the "Great Midland railway" to Dublin. From Dublin the line of travel will be continued, by steamers, across the channel to Holyhead, thence crossing the Menai Straits by the Britania Bridge, and to London by the Chester and Holyhead, and the London and Northwestern railways. By this plan the ocean navigation will be reduced to 2,165 miles, and will require only 5½ days.

The whole time required for a journey from New York to London will be 7½ days, as will appear from the following detailed statement:—

	Days.	Hours.	Minutes.
From London to Holyhead, 263 miles, at 35 miles per hour, average speed of express trains, including stoppages	0	7	30
From Holyhead to Dublin, 63 miles per hour, the present speed of the channel boat	0	7	30
From Dublin to Galway, 120 miles, at 30 miles per hour	0	3	00
From Galway to Halifax, 2165 miles, at 16½ miles per hour, the Cunard boats having attained 15½, and, with less weight of coals, will increase their speed	5	11	15
From Halifax to boun-			

dary between New Brunswick and Nova Scotia, 120 miles, at 30 miles per hour...	4	5	00
Through New Brunswick, via St. John to Calais, in Maine, 210 miles, at 30 miles per hour.....	0	7	00
From Calais to Waterville, 155 miles, at 30 miles per hour.....	0	5	10
From Waterville to N. York, (line in actual operation) 410 miles, at 30 miles per hour.	0	13	40
Total running time.	7	8	5
Add 4 hours for delays, trans-shipments, &c.	0	4	0
Whole time between London and N. York	7	12	5

From Memphis to New York, by the Memphis and Charleston road, is 1,200 miles, and is the nearest practicable line. This distance, at 25 miles per hour, will require two days—let 12 hours be allowed for delays and changes, and call it 2½ days. This will make the journey from Memphis to London 10 days, and from London, by way of Memphis, to San Francisco, 23 days and 10 hours.

Nor does this complete the chain. For steamships may perform the voyage to China, from San Francisco, by having supplies of coal deposited at the Fox Islands. The most northern free port in China, Shanghai, is in latitude 31°. San Francisco is in latitude 37½°, and it is probable that by no other route could steamships cross the Pacific.

Ships, in the present state of steam navigation, cannot carry a supply of coal for more than 3,000 miles, and pay a profit. The Fox Islands are about midway between San Francisco and Shanghai, and about the same distance from each as it is from Halifax to Liverpool, the present route of the Cunard steamers.

Lieut. Maury calculates that steamers may perform the trip between Shanghai and San Francisco in 26 days.

This would then be the nearest possible route from China to London, and the journey could be performed in 49 days and 10 hours.

It is a circumstance worthy of remark, and significant in view of any future plan of a direct road to California, that Memphis is in latitude 35°, just between the two places above mentioned.

But let us examine a little more closely into the line between Memphis and New York. There is certainly no route, now travelled, between these points, which is not longer, by more than 400 miles, than that by way of your road. An examination of the map will satisfy any one that there are natural difficulties which will prevent a shorter line from ever being made.

Some idea may be formed of the directness of this line, by the fact that, should the shortest line be adopted, the variation in latitude between the most northern and most southern point on any part of the line, between Chattanooga and Memphis, will be less than 30 miles: and, between Richmond and the farthest southern point of this line of roads, the difference of latitude will be only 2½ degrees.

There is no portion of this line which is not chartered, and there are but 30 miles between your road and New York which are not now in progress of construction. This 30 mile is between Chattanooga and Cleveland, on the East Tennessee and Georgia railroad. A charter was obtained for this road, but no company has been organized under it. Every railroad company in Tennessee is interested in its construction, and will at a proper time, take steps to forward it. The proper plan would be to make it as a branch to the East Tennessee and Georgia road. The work of this company has progressed so far as to insure its completion. The next link in this chain is the East Tennessee and Virginia road. This work is in progress, and will require the fostering care of the Legislature, and will certainly receive that aid, as it is so clearly the interest of the two most important companies of middle and west Tennessee to aid all lines from Chattanooga to any part of the Atlantic coast.

The roads through Virginia, on this great line, are either finished or in rapid progress and will complete the system. The great necessity for this line of roads may be strikingly illustrated by the fact that, although it is only 435 miles from Lynchburg to Chattanooga, the traveller will now find it best to go 1000 miles to get from one of those points to the other.

All the roads, now proposed, in the vicinity of Memphis and Charleston road, will act as feeders. The Mobile and Ohio road is 470 miles in length and will cross this nearly at right angles. Supposing it to be 180 miles from Cairo and 290 miles from Mobile to the point where the two roads intersect. It will then be, from the junction of the Mississippi and Ohio at Cairo, to Philadelphia, 72 miles nearer, by your road, than by the Pittsburg route. Any travel from Mobile, destined for the eastern cities, would come up to the Memphis and Charleston road to go eastward, as the nearest and most expeditious route.

The Nashville and Chattanooga railroad is another feeder for your road. The travel from Nashville and a large portion of middle Tennessee, destined for Memphis and New Orleans, will come down to your road at the point of junction between the two.

Enough has been said to prove that, as a line of travel, this will certainly be the most important in the Union. This alone would make it a profitable road. But, as a freight road also, it will occupy the highest rank. It may be assumed, as an established truth, that any road of this length, passing through a rich country, will support itself. Now, this road, for its entire length, does pass over a country which cannot be excelled in fertility. There are but 50 miles of poor land on the whole road. Even the poorest land on this road will compare favorably with any land on some of the most flourishing roads in this country.

There are 109,000 bales of cotton raised in the valley of the Tennessee between the Shoals and Chattanooga, and its valley, when its resources are fully developed, is capable of four times its present production. A table will be appended if it can be procured in time giving a few statistics of the counties near the line of road. Whether the products of this valley shall seek a market in the cities of Charleston and Savannah, or in New Orleans, is a matter of indifference to the company, and that must be decided by the inducements which each city shall offer as a market.

The country along the line of road must enjoy great and peculiar advantages from having a free choice of the markets of New Orleans, Charleston Savannah and the Virginia cities.

The local trade and travel on this line would support it. From Memphis to Richmond is 880 miles, and there is not, on this continent, a line of that length, passing over so much rich soil. It may be safely stated that there are not 150 miles in this distance that may not be called rich land, and the character of the country traversed is such as to produce all the effect of difference of latitude. One of the most important elements of prosperity, in a great line of transportation, is its passing through many degrees of latitude, so as to exchange the productions of one climate for those of another. This line, covering only 2½ degrees of latitude, traverses a country, varying as much in climate, as is usually found in twice that number of degrees.

The chain of communication between Memphis and the Chesapeake bay will combine as many varied interests as could possibly be found in the same distance. It touches, at different points, regions most favorable to the great staple productions of corn, wheat, tobacco, hemp and cotton; it passes through districts peculiarly adapted to grazing and growing wool; it traverses a country rich in salt, plaster, coal, iron, lead and copper, and abounding in sites where any amount of water power can be commanded for manufacturing purposes. This country has within itself the means of a prosperity greater than the most sanguine friends of improvement have yet dreamed of. The variety of pursuits might be so great as to support a very large population, even without foreign commerce. Thus would all the parts of this great line find themselves possessing one common interest, and the energies of the whole would be required to supply the wants of the different parts.

As long as cotton bears a remunerating price, the counties along the Memphis and Charleston railroad will find it to their interest to cultivate that staple chiefly. Virginia will be supplied with cotton from the valley of the Tennessee, through this railroad, and will exchange for it her salt, plaster, manufactured tobacco and flour. This exchange of commodities, together with the local travel of the immense population which will spring up in this fertile region, will of themselves be sufficient to support the road. It has been found, in Massachusetts, that the number of passengers annually transported over their railroads is over five times the population of the country in which they are located, and that the amount of freight transported is 1½ tons to each inhabitant. Why should not that which has taken place in Massachusetts happen here also?—but even if the proportion here should be one-tenth of what it was in Massachusetts, it would ensure the complete success of the work.

From the Merchant's Magazine.

Internal Improvements of the State of New York.

A SKETCH OF THE RISE, PROGRESS, AND PRESENT CONDITION OF INTERNAL IMPROVEMENTS IN THE STATE OF NEW YORK.

RATES OF TOLL ON THE NEW YORK STATE CANALS.

The success of the New York canals is closely identified with a just discrimination and a liberal policy, in regard to the rates of tolls exacted by the State. In alluding to the subject of constructing the Erie canal by incorporating companies for the purpose, or "achieving this great work" by the State, the memorial to the Legislature from the city of New York in 1816, says:—"Great care ought to be taken to guard against *high tolls, which will certainly injure, if not ruin the whole enterprise.*"

By the 20th section of the "act for the maintenance and protection of the Erie and Champlain canals," passed in 1820, the canal commissioners were authorised "to establish the rates of toll to be paid on all articles conveyed on either of the said canals in any manner," and to erect weighing scales, and "make all such rules and regulations in respect to the collection of toll, and the payment thereof to the commissioners of the canal fund," and enforce forfeitures for breaches of their regulations, not exceeding twenty-five dollars in any one case.

The rates of toll established by the canal commissioners were first applied to the middle section of the Erie canal, on the 1st of July, 1820. Merchandise was charged at 2 cents per gross ton per mile, and agricultural products, and articles not enumerated at one cent. Sawed lumber at 5 mills per 1,000 feet, and timber 5 mills for 100 solid feet per mile.

The regulations of the commissioners required the master of the boat to present "a bill of particulars," which the collector was to examine and compare with the cargo, and then copy the bill in a book, receipt the toll on the bill, and hand it to the master of the boat, which served him as a clearance. "And by way of a check upon their accounts, one of the collectors is required to make an entry of all the property paying toll, at the several places of collection, and of all the receipts therefor by the collectors." The regulations adopted by the commissioners at that early period, contain, substantially, the outlines of the present system in regard to the duties of boatmen and collectors.

The mode of weighing boats and their cargoes, to ascertain the amount of toll to be charged, has been entirely changed. By the 15th section of the act before referred to, each boat used for the transportation of articles on which toll was charged by weight, was required to "have fixed on each side thereof two metallic straps, one near the head and one near the stern, extending from below the surface of the water when empty, to above the surface of the water when full laden, which straps shall each be so graduated and marked as distinctly to show the amount of tons weight contained in said boat or vessel.* Three hydrostatic locks were constructed at West Troy, Utica and Syracuse. These

* Annual Report of Canal Commissioners, 1821.

locks were constructed with a chamber, large enough to receive any boat used on the canals, on a level with the canal, and into which the boat was conducted as in the present weigh locks. Separate from this, and on a level below the chamber of the weigh lock was a receptacle into which, by a gate, the water of the chamber of the weigh lock could be emptied. To ascertain the weight of a loaded boat, the chamber of the lock was filled, the boat taken into it, and the gates closed between it and the water of the canal. The length, width, and depth of the water was then carefully measured, and the cubic feet ascertained. The water was then drawn off into the receptable, the boat settling down on timbers so arranged as to yield to its shape. The quantity of water drawn from the lock into the receptacle was then ascertained by a graduated rod. The difference between the number of cubic feet in the chamber measured with the boat in the lock, and the number as measured in the receptacle into which the water above was drawn, multiplied by 62½, the estimated weight in pounds of each cubic foot of water, would give the weight of the boat and cargo; it being, as stated by the commissioners, "a principle in hydrostatics, that every body which floats in water displaces a volume of this fluid, precisely equal in weight to the floating body."† The light weight of the boat having been ascertained previously by the same process, it furnished the means of ascertaining the weight of the cargo on which to charge toll.

This mode of weighing boats was abandoned after a trial of three or four years. The Commissioners in their annual report of 1829, state that "scales for the weighing of boats have been erected the past season at Syracuse, and at West Troy; and preparations have been made for the erection of another at Utica. They have been preferred to the hydrostatic lock on account of their greater accuracy and facility."

The chambers of the present weigh locks, for the reception of the boats, are similar to the other; but there is a cradle formed of timber for the boat to rest on, which is suspended by heavy iron rods from strong timbers, of which the building over the lock is constructed; when the boat is taken into the lock and the water is drawn from it, the cradle of timber on which the boat and cargo rests, swings clear of the lock, and the weigh master adjusts his weights to the scale, and having a register in the office of the light weight of each boat on the canal, he is enabled to ascertain the weight of the cargo on which toll should be charged, readily and accurately. When this is done, if all is right, the water is let into the weigh lock, and the boat moves into the canal and pursues its voyage. There are five weigh locks on the Erie canal, viz., at Albany, West Troy, Utica, Syracuse and Rochester. Before the enlarged locks were constructed, the scales would weigh a boat and cargo of 150 tons. During the last year, Fairbanks & Co. have prepared scales for the enlarged weigh lock at Albany, which is estimated will weigh 400 tons.

The weigh locks are essential to secure the collection of the full amount of revenue. On 28,810 cargoes weighed in 1849, additions were made in nearly half the cases amounting to an aggregate of 43,677 tons. Staves are weighed, and pay toll by the ton; and provision is made for weighing and paying toll by the ton on sawed lumber. Several thousand cargoes of lumber were weighed by the weigh locks in 1849.

In fixing the rates of toll in 1823, the canal commissioners doubled the toll on sawed lumber carried in boats, and quadrupled it on rafts. On merchandise the toll was increased one-third, and on lumber it was doubled. No reason was assigned for raising the toll on sawed lumber carried in boats from five mills to one cent per 1,000 feet. But in regard to lumber carried in rafts, the commissioners state in their report of 1824, that in some cases on the Champlain canal these rafts were more than 1,000 feet in length, and that the canal banks were seriously injured in drawing them along with a strong team; and as the owners of the rafts could not be induced to keep the rafts clear of the canal banks, the expedient of charging double toll, or two cents per 1,000 feet on rafts was adopted. Lumber carried in boats has been reduced to five mills per 1,000 feet, as fixed in 1820; but in rafts the rate is still retained at 2 cents per 1,000 feet per mile. Subsequently, the canal board adopted a regulation limiting each raft or tow of timber to 6 cribs, which would make the raft about 500 feet in length; notwithstanding the high rate of toll and these restrictions, the number of cribs passing the lock west of Schenectady has averaged 1,666 for each year from 1845 to 1849, both inclusive.

† Annual Report of Commissioners, 1825.

The commissioners of the canal fund, in their report to the Assembly in 1825, respecting a system for the government of the canals and the collection of tolls, prepared a tariff of tolls, which is given in page 317, vol. ii. Canal Laws. Respecting this tariff, the commissioners say:—"As a general rule, we have subjected manufactures, and articles of the growth of foreign countries to a charge of three cents per ton for each mile, while the products of our own soil are charged with only one-half of that amount." The commissioners say, "freight boats are in the constant habit of carrying passengers, for which no toll is now charged;" and they recommend that masters of freight boats should give an account for all passengers carried by them, and pay five mills per mile for each passenger. The toll on packet boats was put at six cents per mile on the boat, and five mills per mile on each passenger. This proposed tariff considerably increased the rates which were fixed as the minimum by the constitution of 1821: The Legislature did not adopt the tariff recommended, but permitted the rates to remain as fixed by the canal commissioners.

In their annual report to the Assembly in January, 1827, the canal commissioners give their views in regard to the regulation of tolls, and the considerations which have governed them in fixing the rates from year to year. "It will be observed," says the report, "that on salt, stone, brick, lime, iron ore, gypsum, staves, and on all articles of great weight, and of little value or price, which are charged by the ton, the rate is five mills per ton, per mile; and on timber and sawed stuff, which are charged by solid or superficial feet, the rates are in much the same proportion. On the more valuable productions of the country, the rates vary from one to one and a half cents per ton, per mile. On merchandise and property ascending the canals, with some specified exceptions, the charge is three cents per ton, per mile. This is the highest rate of toll, and five mills is the lowest which is imposed on any article which is rated by the ton." "The constant fluctuation in the value of articles, the competition which may arise with rival canals in neighboring States, and, perhaps, the varying condition of our fiscal concerns, would render additional modifications indispensable.—There is nothing, however, as we think, in the present rates of toll which should be considered high or prohibitory. On the contrary, if we compare them with rates on other canals, or on bridges and turnpike roads, they will be found extremely low. The average rates of toll on the Erie and Champlain canals do not exceed one cent per ton per mile. On the Middlesex canal the average rate is six cents per ton per mile." "It requires two horses to draw three-fourths of a ton on an ordinary turnpike; and the rate of toll is about one cent per ton per mile. The same number of horses will draw, with equal facility, thirty-five tons on the Erie canal, and the rates of toll will be one-third less than on the turnpike. Property passing an ordinary toll bridge pays as much per ton as is charged on fifteen miles of the canal; and for passing Cayuga bridge, which is about one mile in length, as much as on sixty miles." "It is possible that the competition on the Welland canal may render it expedient, for the purpose of securing the business upon our own canal, to reduce the tolls to the constitutional minimum; but, in the meantime, it will not be either prudent or politic, to reduce them, unless it shall clearly appear that the transportation will be increased by such reduction, or the country be in some measure relieved from the effect of any unusual depression in the price of its productions."

With these remarks, the canal commissioners, in their report of 1827, say, "if the rates of toll should not be materially reduced, we may estimate their proceeds, for this year, at $870,000." They annexed to the report the rates of toll established by the canal commissioners in March, 1826, which they say were subsequently adopted by the canal board.

In 1830, the Senate called on the canal board to report "whether in their opinion any higher rates of tolls can, with advantage to the interest of the State, be imposed upon any merchandise or property transported on the canals of this State, particularly from the Hudson river into the country."—This resolution was introduced by Mr. Maynard, of Oneida.

To be continued.

Miscellaneous Statistics.

Cotton imported into England in 1799	26,749,800 lbs.
Cotton imported into England in 1800	41,946,200 "
Of which in 1799 from the United States	3,546,400 "
Of which in 1800 from the United States	5,869,200 "
In 1849, the U.S. exported to England of Cotton.	745,000,000 lbs.
Value or cost of goods imported into the United States in the year 1836	176,479,174
Value or cost of goods imported into the United States in the year 1850	165,426,220
	$11,052,954
more than from 1789 to the present time	
Specie imported in 1836	$13,400,881
" " 1850	13,710,098
Domestic productions exported in 1847	$150,574,844
Which exceeds any other year by	$16,000,000
Coffee imported into the U.S. in 1849 cost 5½ c. per lb.	165,334,700 lbs.
Coffee imported into the U.S. in 1850 cost 7¾ c. per lb.	144,986,895 lbs.
About 9 per cent of this was exported from the United States.	
Whole commerce of the United States with England and her colonies in 1847	$174,031,158
With other countries	130,834,302
Exports to England in 1847	$101½,000,000
Imports from " "	72½,000,000
Exports from other countries in 1847	57,000,000
Imports from other countries in 1847	738,000,000
Exported from New York in 1848	14,579,948
Of which there was of specie	.10,043,815
" " goods	$4,526,132
Value of Domestic Exports from New York in 1848	$38,771,209
Value of Domestic Exports from New Orleans	39,350,148
Value of Domestic Exports from other States	53.983,564
	$132,904,921
Of this amount, Goods	130,193,509
" " Coin	2,700,421

Vessels Built in the United States.

	Ships.	Brigs.	Schooners.	Sloops and canalboats.	Steamers.	Total.	Tonnage.
1845	124	87	322	342	163	1,028	146,018
1846	100	164	576	355	525	1,428	188,204
1847	141	168	689	392	198	1,588	243,783
1848	254	174	701	547	175	1,851	318,072
1849	198	148	623	340	208	1,447	256,579

Note.—About four years since I sent to the Courier an account of the Tonnage built in the United States from 1815 to 1845, and this account completes the account with that published by you today to the year 1850. More ships built in the State of Maine than in all other States united.

The vessels built last year, including canal boats, average two hundred tons.

	Ships.	Brigs.	Schooners.
1815 to 1824..	591	1,161	4,367
1845 to 1834..	473	1,250	4,954
1835 to 1844..	792	737	3,507
9½ to 29½ y's.	2,156	3,148	12,828

	Sloops and Canal Boats.	Steamers.	Total.	Tonnage.
1815 to 1824.	2,444	41	8,604	879,858
1825 to 1834.	1,574	498	9,147	1,089,805
1835 to 1844.	1,944	1,025	8,005	1,045,410
9½ to 29½ y's.	5,962	1,564	25,756	3,015,073

—*Boston Courier.* W. W. O.

Complete returns have now been received of all the counties in the State but two, Allegany and Ulster. In Allegany and Ulster a single town wanting. Estimating these, the table below is complete for the State:—

	1840.	1850.
Albany	68,536	93,297
Allegany	30,185	37,600
Broome	22,348	30,660
Cattaraugus	28,803	38,910
Cayuga	50,364	55,489
Chautaque	47,641	50,624
Chemung	20,731	28,964
Chenango	30,779	40,313
Clinton	28,157	40,065
Columbia	44,237	43,014
Cortland	24,605	25,058
Delaware	35.364	39,874
Dutchess	52,488	58,994
Erie	62,151	101,112
Essex	23,620	31,203
Franklin	16,450	25,115
Fulton	18,038	20,158
Genesee	28,721	28,528
Greene	30,446	33,124
Hamilton	1,907	2,188
Herkimer	37,378	38,257
Jefferson	61,028	68,156
Kings	47,614	138,899
Lewis	17,849	24,570
Livingston	35,324	40,887
Madison	40,896	43,081
Monroe	64,912	87.338
Montgomery	35,801	31,913
New York	312,932	515,394
Niagara	31,114	42,224
Oneida	85,345	99,818
Onondaga	67,915	85,900
Ontario	43,501	43,978
Orange	50,733	57,164
Orleans	24,995	28,464
Oswego	43,820	62,150
Otsego	49,403	48,740
Putnam	12,825	14,134
Queens	30,224	37,042
Rensselaer	60,303	73,435
Richmond	16,985	15,066
Rockland	11,874	16,965
St. Lawrence	56,634	68,634
Saratoga	40,542	45,620
Schenectady	17,233	20,057
Schoharie	32,351	33,537
Seneca	24,868	25,442
Steuben	45,985	63,785
Suffolk	32,469	36,826
Sullivan	15,630	25,090
Tioga	20,351	25,384
Tompkins	38,113	38,749
Ulster	45,724	59,959
Warren	13,470	17,159
Washington	51,095	44,761
Wayne	42,868	44,967
Westchester	48,678	58,267
Wyoming	35,312	32,123
Yates	25,552	20,590
Total	2,429,550	3,099,249

Increase in ten years 669,699 or about 27 per ct. From 1830 to 1840, the increase was 26, and from 1820 to 1830, 38 per cent.

Statistics of Ohio.

From the Auditor's Report for 1850 we glean the following aggregates of interesting statistics:

Total acres of land	23,981,350
Value of lands	$266,751,103
Value ot towns	74,637,735
Personal property, moneys & credits.	98,487,502
Value of taxable property	439,876,360
State tax on property	1,413,830
Tax on lawyers and physicians	9,303
County school and township taxes	1,692,164
Road tax	203,728
School house and other special taxes.	754,684
Total taxes	4,227,708

	Number.	Value.
Horses	513,625	$19,142,789
Mules	2,180	86,828
Cattle	1,103,811	11,315,560
Sheep	3,812,707	1,984,983
Hogs	1,672,178	1,902,029
Total value		$34,432,189

Pleasure carriages	63,149
Value	$2,763,782
Watches	65,084
Value	$910,038
Pianos	2,368
Value	$318,684
Merchants' stock	15,510,871
Manufacturer's stock	4,478,089
Moneys and credit	33,192,076
Total amount of personal property on duplicate	98,487,502

The State holds stock in turnpike companies to the amount of $1,853,565, on which the dividend paid the State was $18,288 20.

The State had stock in the Pennsylvania and Ohio canal and in the Cincinnati and Whitewater canal to the amount of $570,000, and received a dividend of $11,550 last year.

The State has railroad stock to the amount of $566,483, on which has been received a dividend of $13,008 in script of the Little Miami railroad, and $10,500 in the bonds of the Mad River railroad company.

There were in the State, 796,199 youths in 1849, for educating of whom the State paid $295,050 81.

BANKS.

There are Independent Banks	11
Capital	$757,790 00
Branches of State Bank	41
Capital	$4,720,093 75
Old Banks	5
Capital	$2,011,266 00

The total banking capital of all the Banks is $7,489,109 75. The State tax paid by the Banks during the last year is $57,120 61.

Commerce of New York.

We published on the 16th inst. our usual statistical statement in regard to the commerce of this port, for the first three-quarters of the past year, the returns for the last quarter not having been completed. We have fortunately been enabled to complete our compilation much sooner than we anticipated, and now lay before our readers a statement of the number of vessels which arrived and cleared during the entire year, with their registered tonnage and number of seamen.

Entered during the year 1850.

	No. of vessels.	Tonnage.	No. Seamen.
Am vessels	1,890	806,141¼	27,540
Foreign do	1,451	441,718½	18,618
Total arrived	3,341	1,247,860	46,158

Cleared same period.

	No. of vessels.	Tonnage.	No. Seamen.
Am. vessels	1,463	699,617	24,263
Foreign do	1,355	406,453¼	17,208
Total cleared	2,818	1,106,070¼	41,471

This, in connection with our former table, shows a steady increase in the growth of our foreign commerce, and may be taken as a true index of the progress of our city toward what she is destined to be —the greatest commercial city in the world. We annex a table showing the tonnage which has arrived at this port from foreign countries for each calender year from 1821 to 1850 both inclusive.—*N. Y. Jour. Com.*

Census of New Hampshire.

The following is the population of this State, compared with the census of 1840, as reported by by the Marshal:—

	1850.	1840.
Rockingham	49,215	45,771
Strafford	29,359	23,149
Belknap	17,722	17,989
Carroll	20,164	19,989
Merrimack	40,346	36,253
Hillsborough	57,480	42,494
Cheshire	30,141	26,429
Sullivan	19,326	20,340
Grafton	42,343	42,311
Coos	11,859	9,849
	317,992	284,451

In the counties of Belknap and Sullivan, it will be seen, there has been a small decrease of population.

Coinage at U. S. Mint.

E. C. Dale Esq., treasurer of the United States Mint, gives the subjoined statement, exhibiting the coinage and operations of the Mint for the month of January. The coinage of gold was greatly diminished, in consequence of a suspension of the refining operations from the 30th of December, 1850, to the 20th January, 1851. This suspension was necessary, partly to enable the melter and refiner to settle his account under the law which requires him for that purpose, annually to deliver all the bullion in his hands to the treasurer, partly to afford an opportunity to prosecute certain improvements, now complete, whereby the the capacity of the Mint is enlarged to meet the demands of the depositors and the public.

GOLD COINAGE.

105,801 double eagles, value	$2,116,020
101,500 quarter eagles, "	253.900
251,046 gold dollars, "	251,046
458.407 pieces	2,620,966

SILVER COINAGE.

78,000 half dollars	39,000 00
297,500 dimes	29,750 00
164,000 half dimes	8,200 00

COPPER COINAGE.

701,343 cents, value	7,013 43
52,744 half cents value	263, 97
1,752,044 pieces	$2,705,193 40
Total gold deposits from 1st to 31st Jan. 1851 inclusive	$3,000,000 00
Of which from California	4,940,000 00
From other sources	60,000 00
	$5,000,000 00

Indiana Railroad Items.

We copy the following interesting items from the Madison Courier:

The Board of directors of the M. & I. R. Co. have declared a dividend of six per cent. on the capital stock, for the six months ending December 31st, 1850.

The gross receipts of the Madison railroad for the year ending December 31st, 1850, were $300,000, against $243,000 last year.

The dividend last declared by the Madison railroad was earned during the months of October, November and December of the six.

The splendid new passenger car at the wharf this morning on a flatboat, was built by Keck & Davenport, Cincinnati, for the Knightstown road.

To-day the Shelbyville railroad company receive bids for the running of their road for the next year.

We understand the stockholders of the Shelbyville railroad have elected J. Elliott, Esq., President and V. A. Rockwood, Secretary.

Madison and Indianapolis railroad stock is reported in the Tribune of the 6th inst., firm at $105¼ a106 in New York.

Business of the St. Louis Custom House for the year 1850.

The following statement has been furnished us by Mr. W. W. Greene, the surveyor of this port for the year just expired:—

Foreign value of merchandise imported and entered for consumption at this port, during the year 1850		$560,773 38
Duties paid thereon	$174,974 19	
Foreign value of merchandise remaining in public warehouse at this port 31st December, 1850		22,627 32
Duties payable thereon	$18,932 19	
Foreign value of merchandise imported from England		301,266 37
Do do France		84,842 38
Do do Germany and Holland		31,859 63
Foreign value of merchandise imported from Spain		116,830 00
Foreign value of merchandise imported from Genoa		121 00
Do do Manilla.		25,854 00
Total		$560,773 38

The general description of merchandise thus imported, is as follows:

	Foreign value.
Hardware, cutlery, &c	$153,714 00
Copper, sheet-iron, iron, &c	76,543 00
China and earthenware &c	74,070 14
Brandy, wine, gin, &c	31,091 88
Dry Goods, &c	13,914 36
Stationary, fancy goods, toys, &c.	34,467 00
Corks	1,106 00
Sugar	153,449 00
Molasses	22,418 00
Total	$560,773 38

Hospital money collected in 1840	$2,388 75
Do expended in 1850 for the relief of sick and disabled seamen	1,755 86

Respectfully, W. W. Greene.

Statement.

Of Vessels enrolled at the port of St. Louis, as reported on the 31st December, 1850.

118 steam vessels. 27,962 60-95ths tons, with a power equal to 4,677 728-1000 horses.
63 vessels other than steamers, 4,006 27-95ths tons.

W. W. Greene.

Coal for Gas.

The London "Journal of Gas Lighting," for last November, has an elaborate article on the compative lighting powers of different kinds of coal, and the respective value of their residuary products. From this article is compiled the following table. Five cubic feet per hour of the gas produced by each description of coal, it must be understood, gives a light equal to the number of candles stated in the first column of figures. The second column shows to what proportion of the cost of the coal the residuary products are equivalent.

	Candles.	Per cent.
Scotch Cannel	20 to 30	5 to 20
Newcastle Cannel	22 to 25	35
Wigan Cannel	20 to 23	20 to 20
Newcastle coking coal	11 to 15	50 to 55
Derbyshire " "	12 to 15	40 to 45
Yorkshire " "	10 to 13	45 to 50
Lancashire " "	10 to 12	45 to 50
Cumberland " "	10 to 12	35 to 40
Gloucestershire "	10 to 12	30 to 35
Cheshire " "	10 to 12	20 to 25
Somersetshire "	9 to 10	40 to 45
Staffordshire "	9 to 10	35 to 40
South Wales and Dean Forest "	8 to 9	45 to 50

This table may teach the public how fallacious it is to suppose that gas can be sold at the same price, with the same profit, all over the world. The lighting power of the coal—the value of the residuary products—the extent of consumption—must be taken into consideration. We must also bear in mind that the residuary products of the same coal vary in value according to locality.

Maine.

Portsmouth, Saco and Portland Railroad.—Below we give an authentic table, furnished to us, showing the increase of travel and business on the Portsmouth, Saco and Portland railroad from its commencement, December 1, 1842, to the close of its last year's business, November 30, 1850. This railroad, it will be remembered, is usually classed as a passenger road, and moreover, it has been, during the whole period of its operation, subject to steamboat competition. It will be perceived that the amount of travel and business on this road has uniformly and steadily increased from year to year, and both have more than doubled in the short space of eight years:

Year.	No. of passengers.	Amount of Fares.	Gross rcpts pasg's,frei't, mails, &c.	Net proc'ds
1843	90,342	$76,257 11	$89,997 08	$47,166 36
1844	107,743	101,563 61	124,497 39	74,841 25
1845	119,292	100,767 71	127,608 62	73,911 47
1846	134,753	106,504 62	132,324 05	74,353 59
1847	167,327	124,365 37	155,159 49	98 961 13
1848	188,498	128,140 31	159,545 00	99,312 23
1849	209,478	143,911 26	174,579 56	110,745 94
1850	222,283	155,851 56	194,243 40	106,577 36

The passage out of the Cunard steamship Asia, is claimed by the London papers as being the shortest on record. Thus, the Times says:—

Her run of last summer to the Mersey, on which occasion she steamed past the Rock lighthouse at midnight on Saturday, had previously stood unrivalled, being 1 hour and 20 minutes less than the finest passage of the United States mail steamer Atlantic; but the Asia has now beaten even herself, fully justifying her claim to be considered the fleetest existing ocean steamship. From New York, on the 18th inst., she cleared precisely at midday but shortly afterwards stopped her engines to repair damages received by her wheels during a collision with the wharf.—Fifty-five minutes were thus lost; and she finally started on her voyage shortly before 2 P. M. During her subsequent passage she experienced variable with frequent strong breazes from the westward, and on Friday, at 10 P. M., made Cape Clear, having steamed from land to land in little more than nine days. Holyhead was passed unobserved by the marine telegraph, at 4 P. M. on Saturday, at half past 9 o,clock her guns saluted the town, exciting general surprise and universal gratification as regards the celerity of her passage. From the log it will be observed that the Asia effected a very high average speed per diem. On two days she steamed a distance seldom equalled hither, in the annals of ocean steaming, running on the 25th, 26th, and 27th inst. respectively 328, 321, and 300 miles. Her passage, reckoned according to mean time, and deducting 45 minutes lost off New York, repairing floats, may be recorded as 10 days 4 hours and 5 minutes, or 2 hours and 55 minutes less than her fastest summer passage, 4 hours and 15 minutes less than the United States mail steamers' fastest passage eastward, and about 5 hours and 20 minutes less than the remarkable summer run of the Pacific out to New York.

A New Railroad Project for New York Business.

We hear of a new railroad line, direct from the Vermont and Canada road at Essex junction, Vt., to Castleton, there to connect with the most direct line to Troy or Albany. The Vermont and Canada road extends from Rouse's point to Essex, and is in operation, and the roads from Castleton via Poultney, and via Bennington to Troy, &c. are under contract. It will thus be seen that the only link required to form a direct New York line to Rouse's point and Montreal, is this projected line from Essex to Castleton, a distance of about fifty miles. The entire distance from Troy by this line to Rouse's point would be very little longer and probably much cheaper than a line on the west side of the Lake via Whitehall; and besides, the Charleston and Essex line requires but 50 miles of additional railway, while the Western line would require at least 120 miles. Should the Vermont and Canada road go in for such a connection, then New York would have full and free enjoyment of all the advantages of that road. The project has features that strongly commend it to the attention of all concerned.—*Vermont Patriot.*

The Gutta Percha Trade.

Previous to 1844, the very name of gutta percha was unknown to European commerce. In that year 2 cwt. of it were shipped experimentally from Singapore. The exportation of gutta percha from that port rose in 1845 to 160 piculs; (the picul is 133⅓ lbs.); in 1846, to 5,364; in 1847, to 9,296; in the first 7 months of 1848, to 6,768 piculs. In the first four and a half years of the trade, 21,598 piculs of gutta percha, valued at $274,190, were shipped at Singapore: the whole of which was sent to England, with the exception of 15 piculs to Mauritius, 470 to the continent of Europe, 922 to the United States.

But this rapid growth of the new trade conveys only a faint idea of the commotion it created among the native inhabitants of the Indian Archipelago. The jungles of the Johore were the scene of the earliest gatherings, and they were soon ransacked in every direction by parties of Malays and Chinese, while the indigenous population gave themselves up to the search with an unanimity and zeal only to be equalled by that which made railway jobbers of every man, woman, and child in England about the same time. The Tamungong, with the usual policy of oriental governors, declared the precious gum a government monopoly. He appropriated the greater part of the profits, and still left the Malays enough to stimulate them to pursue the quest, and to gain from 100 to 400 per cent for themselves on what they procured from the aborigines. The Tamungong, not satisfied at buying at his own price all that was collected by private enterprise, sent out numerous parties of from 10 to 100 persons, and employed whole tribes of hereditary serfs in the quest of gutta percha.

This organized body of gum-hunters spread itself like a cloud of locusts over the whole of Johore, peninsular and insular. They crossed the frontier into Ligna, but there the sultan was not long in discovering the new value that had been conferred upon his jungles. He confiscated the greater part of what had been collected by the interlopers, and, in emulation of the Tamungong, declared gutta percha a royalty.

The knowledge of the article, stirring the avidity of gatherers, gradually spread from Singapore, northward as far as Pinang, southward along the east coast of Sumatra to Java, eastward to Borneo, where it was found at Brune, Sarawak, and Pontinak on the west coast, at Keti and Passir on the east. The imports of gutta percha into Singapore, from the 1st January to the 12th of July, 1848, according to their geographical distribution, were:—From the Malay Peninsula, 593 piculs: from the Johore Archipelago, 1,269; from Sumatra, 1,066: from Batavia, 19; from Borneo, 55. The price at Singapore was originally $8 per picul: it rose to 23, and fell about the middle of 1848 to 13.

The commotion among the human race in the Archipelago was great, but the vegetable kingdom suffered most by it. In the course of three and a half years 270,000 trees were destroyed.—*Mechanics' Magazine, London.*

Comparative Value of British and American Iron.

Most of our readers are, we doubt not, aware of the vast amount of the transportation on the Philadelphia and Reading railroad, but few of them, probably, have reflected on the opportunity afforded by its vast business for testing the comparative durability of the different descriptions of iron—an opportunity probably unequalled in the world. For many years a record has been kept in relation to every single bar removed, showing the length of time it had been in use, and its condition when removed, so that it can be at a moment ascertained how many tons' weight had passed upon it before it became so far worn as to render its removal necessary; and the result of the whole has been

to establish the fact that true economy requires that American iron should alone be used for all future repairs, even at a much greater difference of price than now exists. That such is the case will be seen from the following facts:—

An English rail, weighing sixty pounds to the yard, requires ninety-four tons to the mile; the cost of which, at $40, would be $3,760. An American one, of fifty pounds to the yard, would require seventy-eight tons; which, at $48, would be $3,744. Experience has proved the latter to be more durable, and in every respect better than the former, and, therefore, to be much cheaper, even at a difference of $8 per ton, or more than the whole of the present duty on foreign iron, whereas the actual difference is, as we learn, little more than $5 per ton. Nevertheless, English iron, cheap and comparatively worthless, is imported by hundreds and thousands of tons, and will, we doubt not, continue to be so until the remainder of our furnaces shall be closed, when prices will again rise, and probably to the old level.—*Republic.*

Line of Steamers between Baltimore and Charleston.

Increased facilities of intercommunication must tend to link together, indissolubly, the commercial and social relation of our principal southern cities. It is with pleasure that we observe by the Baltimore papers that the steamers for the proposed line, between Charleston and that city, are now in course of building, and one of them (a very handsome model) is expected to be completed in a few weeks. The growing enthusiasm manifested in this important enterprise by the people of Baltimore will, we believe, be responded to, in a like spirit, by all who feel solicitude for the prosperity of our city, and the extension of her trade. The dry goods dealers, grocers, and shippers of Baltimore, have been doing a larger business of late, with North and South Carolina, than in former times, and dealers from the last named States, who were in the habit of making their purchases in New York, Boston and Philadelphia, express themselves sufficiently pleased with the facilities of the Monumental City, enjoyed last year, to induce them to renew their visits in future. The additional avenues of travel, and transportation of merchandise, which will be opened by the successful prosecution of the movement in question, cannot fail to promote this interchange of fraternal relations between two communities whose interests and institution are identical.—*Charleston Courier.*

Coal Consumption

Is constantly and largely on the increase. Scarcely a year goes by that coal is not applied to new and important uses. According to Mr. R. C. Taylor, whose valuable work upon the subject is full of information, the area of coal formation in the United States is equal to 113,132 square miles; while the total area of these formations in Great Britain, Ireland, and the British Provinces of Nova Scotia, New Brunswick, Cape Breton and Newfoundland, is less than 30,000 square miles. Nearly the whole of this vast area is occupied by bituminous coal. The total area of the anthracite region of Pennsylvania is estimated at less than 400 square miles. Anthracite has now been successfully introduced into the manufacture of iron in Pennsylvania and South Wales. In 1842, but four furnaces used this coal in Pennsylvania. In 1846, nearly one-third of the iron manufactured in this State was made by anthracite. In Swansea Valley, South Wales, there were, in 1847, twenty-three furnaces using anthracite, while ten years before there were but three or four.

From the Practical Mechanic's Journal.

Timothy Hackworth.

[CONTINUED FROM PAGE 67.]

The character which he sustained in this competition rests on the merits of his production, the after-display of the adaptation of this engine to the regular traffic conveyance of the line, and the well-attested celebrity of her working long after "Ichabod," had been written over the memory of her rivals. After the full particulars of this trial, and the constructive arrangement of the engine, which were given in our earlier paper, it will be unnecessary to recapitulate them here. Whilst engaged in this competition, a circumstance occurred which we think deserves to be chronicled. Some part of the machinery belonging to the "Novelty," Messrs. Braithwaite & Ericson's engine, having been broken in her transit to Rainhill, the makers were placed in rather an awkward predicament, as she could not be put on her trial until it was mended. Mr. Hackworth being made aware of this, generously offered to repair it for them. He took the broken piece of machinery, welded it, and put it to its lines with his own hands, whilst those gentlemen stood amazed at this remarkable exhibition of friendly feeling on the part of a rival.

Mr. Hackworth was now occupying a prominent line of engineering distinction. The spirited accomplishment of his locomotive undertakings deserves the highest encomiums; and the successful improvements and modifications of locomotives on the Stockton and Darlington railway, the economy and efficiency of which, whereby this line rapidly arose from an anomalous existence to a regularly-organised and well-ordered system, and its success as a trial line, is undoubtedly attributable, in no small degree, to the indomitable energy and constructive skill of this distinguished engineer. The Stockton and Darlington railway was the nucleus of the railway system. She laid bare those wonderful truths with regard to its efficiency, which subdued the prejudices of its stoutest opponents. It was after the proof positive derived from the successful experiments developed here, that the Liverpool and Manchester railway company determined on their mode of transit; in support of which Mr. Hackworth gave evidence, through Mr. Robert Stephenson, to the directors whilst deliberating on the course to pursue.

He never could be induced to advocate stationary engines for regular public traffic. With the pre-science of genius he foretold the universality of locomotive application, and remained its steady friend and supporter.

In January, 1829, an advertisement was issued by the Stockton and Darlington railway company to engineers, offering premiums of 150 and 75 guineas for the best and second best plans, sections, and estimates, for the staiths, machinery, &c., for shipping the coal at Middlesborough. In this Mr. Hackworth became a competitor, and obtained the premium of 150 guineas awarded by the company, and prepared working plans and specifications, agreeable to his own design, for the whole of the apparatus.

To him we owe the introduction of the crank-shaft for locomotive purposes; also, the single lever-reversing motion, the short-stroked pump, and many and various forms of heating surfaces for locomotives.

In 1834, he took the company's engine-works at Shildon, contracted for the haulage on the line, and began to manufacture for the public. The fame which he attained for the superiority of his manufacture, only had a parallel in the skill displayed in the constructive details, and adaptation to the various purposes for which they were required.

His professional services were in great repute throughout the neighborhood, and the collieries which were opening in the district were largely indebted to his engineering skill, for his numerous improvements in winding-engines and general mining machinery—amongst which was the application of the ordinary slide-valve, with its simple gearing, to powerful high-pressure engines, by the use of a relieving piston on the back of the slide for counteracting the steam pressure.

The simplicity of the ram engine is also worthy of note, the piston having a metal tube cast upon it at one end, which, working through a gland, formed the piston-rod; the tube being large enough to allow of the vibration of the connecting-rod, it was hinged on a pin passing through the centre of the piston transversely, thus forming a direct action to the crank, without the intervention of a parallel motion, or crosshead. Another novelty in locomotive mechanism, which was first introduced in 1837, was the lever-action, or the working a long crank with a short stroke in the cylinder. The utility of this principle was demonstrated in the first engine, and has been confirmed by subsequent experiments. Of this principle he was a warm advocate, and continued to descant on its efficiency as long as he lived, giving it as his opinion, that it would ultimately take the lead, and he proved to be the best adapted in every respect for reciprocal action.

In 1840, after fifteen years spent in the service of the railway company, he removed to an establishment of his own, at Soho Works, Shildon. Here, with undiminished ardor, he pursued his professional career, aiding and stimulating, by his talents, the progress of mechanical science.

To the rotary engine he devoted a large share of study, and many were the machines of this kind started by his fruitful fancy, one of which formed the subject of a patent in 1836. He devoted considerable attention to the subject of smelting iron, with a view of economizing the process, but his ideas were never practically worked out, owing to the pressure of more immediate engagements.

It is not alone as a distinguished mechanical student that we must contemplate Mr. Hackworth, but also as a Christian and philanthropist, which he sustained in a most exalted degree. To a naturally fervent and benevolent disposition, he added the adornment of Christianity and love. Widely apart from the merely superficial, with him it was a reality, and shone conspicuously in daily life. Distinguished by a disposition peculiarly attractive, he won the esteem and regard of all with whom he became associated. He possessed a sympathy of soul which connected him with many of those noble institutions tending to mitigate the misery, and advance the moral and physical condition, of our race; and his influence was extensively felt in those praiseworthy efforts to propogate a knowledge of that Christianity, essential to the everlasting well-being of our common humanity.

In the year 1810, he became a member of the Wesleyan Society, with which he held honorable connection as a local preacher and class-leader until the period of his death. Naturally endowed with great moral courage and fortitude of mind, he possessed a fluency and happiness of expression, with a thread of delicate humor and anecdote pervading his discourses, which charmed all who listened to his artless eloquence, issuing directly from the heart, that will long be perpetuated with interesting remembrance.

The spread of divine truth in distant lands shared alike the liberality of his soul and his purse; yet of him it was aptly true, that "the right hand knew not what the left hand did." He avoided popularity, which had no fascination for him; he loved retirement, and preferred the joys of private life to worldly honors, which caused him, though a public character, not to be universally known. As a man, a friend, and a Christian, his name will live enthroned in the noblest sympathies of our nature. Possessing great natural abilities, kind, compassionate, affable, and sympathizing; that exalted moral worth which alone belongs to the nobility of humanity, adorned in a remarkable degree his character and conduct—which, combined with great frankness, urbanity, and simplicity of deportment, made him to be esteemed and loved by all who knew him. By his workmen, he was revered, respected and loved.

His life was characterised by the accomplishment of great moral and physical results, the extension of mechanical science, and the alleviation of the distress of suffering humanity, as well as the formation of undying friendships which will bloom beyond the grave. Constitutionally healthy and robust, his life was one of great activity, both mentally and physically. Every moment was pressed into service, either professionally or in the performance of some good work, which was continued until within a few days of his death. His affliction was but of short duration, during which the greatest resignation, patience, and consideration for those around him, were very conspicuous.

On Friday morning, 28th June, he complained of being unwell, and retired to his room. He grew rapidly worse, and at ten o'clock, p.m., 7th July, was numbered with the dead.

The multitude of people which assembled spontaneously at his funeral, may be regarded as a striking testimony of that affectionate esteem with

which he was regarded by all classes of the community.

Such was the end of that mortality, the existence of which has been marked by the accomplishment of great results by its energy and application, which had nobly fought its course upwards, conquered difficulties, subdued prejudices, and become associated with one of the greatest mechanical achievements of modern times, that has rendered him famous as the father of locomotives.

Railroad Check Ropes.—Quite a neat and available improvement in the coupling and checkropes of railroad cars has lately been invented by a Mr. Ware of R. I. The present mode of using such ropes is by passing them over the top of the cars; but by his invention they are made to run inside at the ceiling, proving a check rope for each car.

These ropes are so constructed that they can be attached to each other, and thus form a continuous line from the engine to the hindermost car. They can be attached or detached in an instant, and the coupling is not easily deranged.

AMERICAN RAILROAD JOURNAL.

Saturday, February 8, 1851.

Patent Machine Picket Fence

SIX DIFFERENT STYLES of this fence are now made by patent machinery; and is by far the most economical fence for *Railroads, Farms, Yards,* etc., ever yet offered to the public, costing only from 4 to 30 cents per foot, according to pattern; and is so put up as to be shipped at a trifling expense. Full particulars will be furnished, by addressing the subscriber, to whom all orders should be sent.

N. STATTON, Troy, N.Y.

Stock and Money Market.

The speculative bubble, which has for months past been swelling its dimensions, has completely collapsed. Its fragments blown in every direction, have carried destruction to many a luckless fellow, struggling under a load of "*fancies.*" The greatest fall has been in the New York and Erie, Reading, and Canton stocks. These have severally fallen 16, 17 and 25 cents. on the dollar. When we take into consideration the immense amount of property which these stocks represent, we see here a rise and fall, to the extent of *millions*, without any appreciable cause but the operations of brokers in Wall street. Nothing has occurred to make these stocks less valuable than they were a month since. Money is still abundant for all business transactions, and undoubted securities still command their usual rates.

The recent gambling operation in stocks is certainly one of the most remarkable in its results that we have witnessed for years. One always expect that financial crises, which occur at stated periods, and seem to be a necessary law in all business operations, will carry down the price of all kinds of stock. A great fall in one kind of property affects, through sympathy, the value of every kind. But, we now see a perfect route in the stock market, with broad sunshine overhead; with an easy state of the money market, and with auspicious prospects for the future. It shows that the recent advance has been a mere *fiction.* But these fictions work the most injurious consequences. A great number of unsuspecting persons, who have neither the means nor opportunity for getting at the merits of the securities, are tempted to buy merely because they are current in the market. It is the fall only that opens his eyes, too late to help him. A large number of *operators,* too, are suddenly stripped of all they possess. The securities, which have played the shuttle-cock between the opposing parties, are sorely damaged by the blows and tumbles they have received. But these are not the worst consequences of stock jobbing. A great fall is sure to embarrass the money market. The operators themselves exert a great influence in monetary affairs, and their condition re-acts upon the market, and a rapid decline of stocks begets a general distrust, which injuriously affects all other branches of business and all other species of property.

The securities of railroads in progress, the negotiation of which make up an important part of the transactions of Wall street, still continues in good request. We are inclined to believe that they have sold as well for a month past as they have at any time within a year. These are likely to be viewed with increased favor, as the roads, as fast as they are opened, demonstrate the goodness of the security upon which loans are based.

Our western friends complain that securities, as good as can be made by any railroad companies in the west, sell at 90 cents on the dollar, while others of a similar character sell at from 100 to 110. The reason of this is obvious, though apparently not founded upon any sufficient cause. The market value of securities depends upon their *reputation*, rather than intrinsic worth. The 6 per cent. bonds of the Boston and Worcester railroad, for instance, sell at 106, 16 per cent. higher than a 7 per cent. Western bond. As far as ultimate security is concerned, the one is as good as the other. The difference between the two is, that the value of the former is well known to all, while that of the latter is not. A capitalist does not so much look at the amount of income which a security yields, as its safety and convertability. He prefers to invest in United States stock to all others, because he know that he can at an instance notice convert them into money, in whatever market he may find himself. A well-known and undoubted 5 per cent. stock, such as United States, New York and Massachusetts 5's, will always command *par*, and will always be sought after for investment in all conditions of the market; so with the 6 per cents of our older and well-known railroads. These are always at a premium, for a similar reason. But time is necessary to invest securities with such attributes, and those of our western friends that are in the market now must make the sacrifice due to their position. They pay a penalty for no other reason than that of being pioneers in railroad construction. Time will bring with it that general confidence and reputation, the want of which is now so severely felt. It is in giving these securities this character that the capitalist makes his money. It is through such a person that securities reach the man who buys to *hold*, and, such is the course of business, that all new securities must have the endorsement of some leading man on 'change, before the person who stands behind him will venture to buy. For a security to be unknown, is to be, for all practical purposes, worthless. It is here that capital makes its money; not in imparting any additional value, but in convincing others of this fact. The course for our western friends to pursue is to call public attention to their works, and their securities in every way possible, relying with full confidence upon the fact that, they will be sure to be appreciated when thoroughly known. Bonds issued by such a company as the Utica and Schenectady are entirely above the influence of individual operators, and need no endorsement to gve them currency. They are known as well as is a dollar, to be exactly what they represent.

The prices of English rails by the last advices are not quite so firm as previous quotations. Rails here are quoted all the way from $40 50 to $44 per ton, according to the views of holders and manufacturers, as to the probabilities of a rise. Contracts for a good article can be made here for $40 50.

SALES OF STOCK IN NEW YORK.

	February 7. Sales.	January 31. Sales.
U. S '67 Loan.....	115½	115½
Erie R.R.....	79½	83
Harlem R.R.....	64½	65
Stonington.....	42	46
L.I. R.R.....	21⅛	21
Norwich & Wor....	61	63½
Albany & Sch'y R.R.	90	94
Del. & Hudson.....	133	134½
Rochester and Syracuse	112½	
Reading	62	58½
Morris Canal.....	19¾	19
Erie income	91½	98
Hudson River.....	79	
" " Bonds.	103	
" " 2d mor	96	
Utica and Sch'y RR.	123	
Ohio and Pennsylvania railroad bonds.	96	
New York City Loan 5s '60.....	103	
Erie 7s '68.....	109	
Canton.....	70	
Farmers Loan.....	61	

SALES OF STOCKS IN BOSTON.

	Feb. 6.	Jan. 30.
Old Colony Railroad.....	68	68
Boston and Maine R.R.....	105¾	106⅛
Eastern Railroad.....	103	104
Fitchburg Railroad.....	111	111¾
Michigan Central Railroad....	97½	98
Northern Railroad....	72½	72¾
Vermont Central Railroad.....	35¼	36½
Vermont and Mass. R.R..-.....	30	31½
Western Railroad.....106⅛		107
Ogdensburg Railroad.....	38⅞	39¾
Rutland Railroad.....	56	56
Portland, Saco & Portsmouth R.R	99	99
Boston and Worcester Railroad.	105½	106¼
Rutland Railroad Bonds....	88	89
Vermont and Mass. R.R. Bonds..	89	
Ogdensburg Railroad Bonds.....	99¼	99⅜
Vermont Central R.R. Bonds....	92	92½
Norfolk County R.R. Bonds.....	63	69
Boston and Providence R.R.....		84⅞
Philadelphia, Wilm'gton & Balt.	30	31¾
Concord R.R.....	55¾	53¾
Connecticut river R.R.....	78	78
Cheshire R.R.....	63	64
Boston and Lowell.....114		115
Boston, Concord & Montreal....	43	41
Nashua & Lowell.....108		109
Fall River Railroad.....	92½	
Sullivan Railroad.....	19	
Manchester and Lawrence.... ..	90	
Worcester and Nashua.....	51	
Rutland Railroad Bonds....	88	

Illinois.

Railroad from Cairo to Chicago.—Below we give the memorial of certain eastern capitalists to the legislature of Illinois, proposing to build the road for which a grant of land was made by the general government.

MEMORIAL.

To the honorable, the Senators and Representatives of the State of Illinois, in general assembly convened.

The memorial of Robert Schuyler, George Griswold, Governeur Morris, Jonathan Sturgis, Geo. W. Ludlow, and John F. R. Sanford, of the city of New York, and of David A. Neal, Franklin Haven and Robert Rantoul, Jr., of the city of Boston and vicinity, respectfully represents—

Having examined and considered an act of the Congress of the United States, whereby land is donated by the United States for the purpose of insuring the construction of a railroad from Cairo, at the mouth of the Ohio river, to Galena, and the northwestern angle of the State of Illinois, with a

branch extending to Chicago, on Lake Michigan, on certain conditions therein expressed; and having also examined the resources of the tract of country through which it is proposed that the said railroad shall pass, and the amount of cost and space of time necessary to construct the same, the subscribers propose to form a company, with such others as they may associate with them, including among their nnmber persons of large experience in the construction of several of the principal railroads in the United States, and of means and credit sufficient to place beyond doubt their ability to perform what they hereinafter propose, make the following offer to the State of Illinois for their consideration:

The company so formed by the authority and direction of the State of Illinois, fully and faithfully perform the several conditions, and execute the trusts in the said act of Congress contained. And will build a railroad, with branches between the termini set forth in said act with a single track,and complete the same ready for the transportation of merchandise and passengers, on or before the 4th day of July, which will be in the year of our Lord eighteen hundred and fifty-four.

And the said railroad shall be in all respects as well and thoroughly built, as the railroad running from Boston to Albany, with such improvements thereon, as experience has shown to be desirable and expedient, and shall be equipped in a manner suitable to the business to be accommodated thereby.

And the said company, from and after the completion of the said road, will pay to the State of Illinois annually —— per cent. of the gross earnings of said road, without deduction or charge for expense or for any other matter or cause, provided that the State of Illinois will grant to the subscribers a charter of incorporation with terms mutually advantageous, with powers and limitations as they in their wisdom may think fit, as shall be accepted by the said company, and as will sufficiently remunerate the subscribers for their care, labor and expenditure, in that behalf incurred, and will enable them to avail themselves of the lands donated by the said act, to raise the funds, or some portion of the funds, necessary for the construction and equipment of said railroad.

Iowa.

Dubuque and Keokuk Railroad.—A meeting of the friends and stockholders of this road was held at Iowa City, at which two companies were organized—to wit: the "Dubuque and Keokuk railroad company north," and the "Dubuque and Keokuk railroad company south." The first is to build the line from Dubuque to Iowa City, and the latter the road from Iowa City, to Keokuk. It was reported by a committee on stock that 2,180 shares of $100 each had been subscribed, or $218,000.—Calvin J. Price, Esq., was chosen President of the Southern company, and George Green, Esq., of the Northern.

Maine.

Up-River Railroad.—A committee of stockholders, and others interested in the subject, was raised at the meeting of the Kennebec and Portland railroad company, held at Augusta on the 8th ult, "to take into consideration the subject of the extension of the Kennebec and Portland railroad north and east from Augusta, and report to the adjourned meeting of said company, to be held at the same place on Tuesday, February 4th."

The committee having been duly notified, held a meeting on Thursday, the 16th ult., and spent the day in deliberating on the subject referred to them, and adopted the following resolutions, offered by Capt. Coffin, of Sidney, with directions to the chairman to report them to the adjourned stockholders' meeting.

Resolved, That in the opinion of this committee it is highly important to the interests of the Kennebec and Portland railroad company, that said railroad, or one to be connected therewith, should be extended and constructed forthwith, up the valley of the Kennebec river, as far, at least, as Skowhegan; and, as an important and efficient means of securing the accomplishment of so desirable an object, they would earnestly recommend to said company, to offer their guaranty of six per cent. interest per annum, for a term of years, on the capital stock necessary to construct the same as far as Kendall's Mills in Fairfield; provided, said railroad shall be finally located to the satisfaction of the directors of the Kennebec and Portland railroad company.

Resolved, That, if any further legislative grant of power is necessary to attain the object above expressed, it is advised that a committee be raised to petition the legislature at its next session, for the necessary authority for that purpose.

JAMES L. CHILD, Chairman,
at the meeting of the committee.

It is obvious that the proposition to be submitted as above, at the adjourned meeting of stockholders in the Kennebec and Portland railroad, is one of no small consequence, and it is desirable that a very full attendance of the stockholders should be had, that a wise and satisfactory decision of the question may be obtained.

Maryland.

York and Cumberland Railroad.—This new work, by which a direct communication is effected between the city of Baltimore and the fertile Cumberland valley, will be regularly opened on Monday for trade and travel. We learn that large quantities of produce, at different points in the valley and also at Harrisburg, are awaiting the event, and will forthwith be sent down to the Baltimore market. The work is a short one as to length, but a very important one in the connections with other roads which it consummates, and the influences which it will exercise in our favor on the trade of one of the most productive sections of Pennsylvania. Already, in the anticipation of the regular opening, a consignment of flour and whiskey was received yesterday by this road, from the valley,by Mr. James Whiteford, Spear's wharf.—*Baltimore American.*

Virginia.

Hempfield Railroad.—This company has completed its organization by the election of T. M. T. McKennon of Washington, as president; Hon. Joseph Khuns and Hugh Y. Brady of Greensburg, S. Bentley, Esq., of Bentleysville, George Wilson, Esq., of West Alexander, Messrs. Samuel Neal and James Powell of Wheeling directors.

The Monongahela Republican says that the company is now awaiting the action of the Virginia legislature, before which body a bill is now pending for granting the right of way. Should it prove favorable, the road will be located at once.

Massachusetts.

Boston and Worcester Railroad.—At the annual meeting of the stockholders of the Boston and Worcester road yesterday, the following list of directors was unanimously chosen, viz:—Thomas Hopkinson, Daniel Denny, Nathaniel Hammond, Benjamin F. White, George B. Blake, Timothy C. Leeds, William Parker, Isaac Emery and George Morey. The only change of the board is the substitution of Mr. Morey for David Henshaw, who has been a director of the corporation from the date of its charter. Mr. Morey paid a handsome tribute to his predecessor, who retired on account of physical disabilities, and on his motion, supported by Wm. Sturgis in some brief remarks, a handsome vote of thanks was paid to Mr. Henshaw for his services. Mr. Sturgis also offered a resolution complimentary to the late Addison Gilmore, which was passed, and the meeting adjourned.—*Boston Courier.*

Michigan Southern Railroad.

The earnings of the Michigan Southern railroad continue to show a large advance on previous years. For the last two months the earnings compare with those of the corresponding period last year as follows:

	1849-50.	1850-51.
December	$4,876 96	$9,973 66
January	2,510 80	16,865 58
Total	$7,387 76	$26,839 24
		7,387 76
Increase in 2 months		$19,451 48

Equal to 250 per cent.

This increase was attributable to the opening of twenty-five miles of new road which were brought into use about the middle of December. About twenty-five miles more of new road will be brought into use in March; and we understand that the road will be completed to the State-line of Indiana by July, and that the Northern Indiana railroad, (which is an extension of the Michigan Southern from the State-line of Michigan through the State of Indiana,) will be finished to South Bend—162 miles from Lake Erie—by September next, and to Lake Michigan, at Michigan City, by January next. West of Michigan City the road is already graded and ready for the iron for nearly 30 miles; and it is in contemplation to have the entire line from Lake Erie to Chicago in operation by the Spring of 1852. Iron has been purchased sufficient to carry the road to Lake Michigan, and the work of construction is actively progressing along the whole line in Indiana.

Missouri.

At a meeting of the directors of the Hannibal and St. Joseph railroad, on the 8th January, Col. R. M. Stewart was unanimously elected President; Washington Jones, of Buchanan, Clerk; E. M. Moffett, of Marion, Treasurer. Commissioners to open books of subscription of stock in the various counties, were appointed as follows: Wm. H. Davison, J B. Marmaduke, and John McAfee, Shelby county; V. E. Bragg, S. E. Nelson, Benedict Welden, Davies; J. H. Hubbel, Jas. Livingston, and John Graham, Grundy; W. Hollyburton, E. Hoyle and A. W. Flournoy, Linn; Thomson Smith, Col. Shambaugh, and Mr. Parrott, DeKalb; Thomas E. Burch, Mr. McClintock, and the Hon, Jas. H. Birch, Clinton; Charles J. Hughes, Geo. Smith, Walter A. Doak, Caldwell; Thos. E. Thompson and Thos. E. Hatcher, Palmyra.

Pennsylvania.

Ohio and Pennsylvania Railroad.—The Pittsburg Gazette gives the following account of the purchase recently made by this company—according to the Gazette it is a first rate purchase, and will result very beneficially to the company:

"The work on the Ohio and Pennsylvania railroad, in Allegheny city and vicinity, is going forward with great rapidity. The track will be ready for the rails early in the spring, and as the iron is on hand we may expect this end of the line to be finished in good season.

The company has purchased, as a site for the outer depot, the twenty acres of ground, situated in the lower part of the city, recently offered for sale by Wm. O'Hara Robinson, Esq. The price paid for the ground was $35,000, and the mode and time of payment is favorable for the company. The company have secured this beautiful and most eligible site at a rate decidedly cheap. It will be worth quadruple this amount in a few years.—

Nearly every question of depots, right of way, &c., so difficult to manage in a region like this, is now settled, and the work under its present able management will go rapidly forward to completion.

Illinois.

Illinois Central Railroad.—The Chicago Democrat, of the 21st inst., gives the following piece of railroad intelligence:

We learn from the Ottawa Free Trader, that the Auditor of State has completed the map of land through which the Central railroad passes, and makes the vacant land on the main track, between Cairo and Peru, amount to 3,174,000 acres. Also, that Hon. Robert Rantoul, jr., of Boston, has arrived at Springfield, with a proposition from capitalists to construct the Central railroad. They propose to take the grant off the hands of the State, and build the road by July, 1854, with a single track. They will pay the State out of the gross proceeds, from the time it goes into operation. The following signatures appear to the proposition:—

Robert Schuyler, Gouverneur Morris, Jonathan Sturges, George W. Ludlow, and John F. A. Sandford, of the city of New York; D. A. Neal, Franklin Haven, and Robert Rantoul, jr., of Boston and vicinity.

They offer to construct the road in all respects equal to that running from Boston to Albany, and with some further improvements. Mr. Rantoul was greatly instrumental in the construction of the Western railroad, in Massachusetts, running from Boston, Mass., to Albany, New York. The names that are attached to this proposition speak well for its character, and are a gurrantee of its proper fulfilment. The early period at which the road is proposed to be completed, is also of vast importance to the State, and should have great weight. We are also inclined to the belief that if not disposed of in some such way to a responsible company, the donation will be frittered away by political harpies, and mere adventurers and sharpers, and the road never built.

Pennsylvania.

Railroad from the Water Gap to Leggetts Gap.—The Stoudsburgh Democrat says that the commissioners appointed to open the books for subscriptions to the capital stock of the Delaware and Cobb's Gap railroad company met in that boro'. The books opened for subscriptions of 18,000 shares at $50 per share, all of which was immediately taken upon the opening of the books, and $5 on each share paid in. The stock was taken by the following gentlemen:

John J. Blair, Blairstown, 1,000 shares; T. W. Gale, New York, 1,000; S. C. Scranton, New York, 480; G. W. Scranton, Scrantonia, 500; J. C. Platt, Scranton & Platt, Scrantonia, each 1,000; F. R. Griffith, New-Haven, Ct. 1,000; S. Marsh, Edward Mowray, W. E. Dodge, John J. Phillips, Jas. Stokes, Daniel S. Miller, J. F. Sturges, R. Sprague, New York, each 1,000; Henry Hackett, New Haven, 1,000; G. Buckley, A. S. Phelps, New York, each 1,000; J. M. Porter, Easton, 5; Samuel Taylor, Stateford, 5; P. H. Mattes, Easton 5; H. W. Nicholas, Wilkesbarre, 5.

The sum paid in, amounting to $90,000, the commissioners deposited in the Belvidere Bank. The commissioners immediately gave notice to the governor, of the proceedings which had taken place, and he will doubtless issue the charter for the said road at an early day. The design is to connect this road on the west with the Leggett's Gap railroad, (which will be connected with the New York and Erie railroad,) and on the east with the Newburgh and Chester railroad, running through the County of Sussex.

Central Railroad.—The Philadelphia papers publish the annual report of the board of directors of the Pennsylvania railroad company, as just submitted to the stockholders. It comprises the period between October 1, 1849, and December 31, 1850. The receipts of the company on account of the capital stock, were $5,822,210. The disbursements $5,095,496. Balance, $726,663. Amount of subscriptions yet to be collected, $1,013,640. Thus the available means of the company for the prosecution of the work, amount to $1,740,303. The eastern division of the road has been completed to the Tyrone Forges, and in a manner entirely satisfactory to the board. Upon the western division, the work thus far has been well done, and has been executed as rapidly as was deemed consistent with durability. The eastern division road was opened for use to the Portage intersection, one mile west of Hollidaysburg, on the 17th Sept. last.

During the months of October, November and December, the net receipts for passengers and freight were $42,084—equal to annual interest of $3 82-100 per cent upon the cost of this division, including the Hollidaysburgh branch, with the interest thereon, chargeable to construction, and of all the cars, locomotives, machinery and fixtures in use. This result induces the board to believe that the road will, during the current year, earn six per cent upon the cost of whatever portion of it may be brought into operation—and that it will henceforward yield an equal or larger per centage upon the whole outlay.

Massachusetts.

Fitchburg Railroad.—At the annual meeting of the company was held in Boston on the 21st inst., Jacob Forster, president, in the chair. The report of the directors was presented N. F. Cunningham, E. H. Derby, H. Adams, Alva Crocker, and Israel Longley were chosen directors for the ensuing year, having all the votes cast, 3635 each, except Derby, who had 3518. On the motion of D. Shattuck, he and Thomas Sumner, Josiah Beard, Thos. Thatcher, and Amos Hawes, were appointed a committee to investigate the cause of the disproportionate increase of freight to the increase of passengers. On motion of T. Thatcher, the directors were authorized to complete the arrangement by which the Waltham and Watertown branch railroad agree to build a road ¼ of a mile long to connect with the Fitchburg, at a cost of $40,000. On motion of Mr. Wood. of Somersworth, the directors were requested to publish hereafter the names of all persons who pass over the road free.

We annex a condensed statement of the operations of the company for the past year:

Earnings	$533,524 28
Premium on stock sold	18,083 85
Total	$551,607 13
Expenses and interest	226,541 15
Balance	$325,062 98
Dividend 8 per cent	276,800 88
Surplus to cover contingent fund	$25,938 25
Contingent fund last year	58,606 85
Total	$84,544 10
Paid for cars	8,214 92
Amount of contingent fund	$76,329 58
Increase of income over last year. Or about 12 per cent.	$58,246 70

Virginia.

Virginia Central Railroad.—At a public meeting in Mason county on the subject of this road, Henry J. Fisher, George W. Summers, Benjamin H. Smith, Samuel Price and Wm. Smith, members of the Virginia Convention, were requested to act as "Lobby members" to the House of Delegates, with the view of helping on the Virginia Central railroad.—And they were requested further to impress upon the public, by all manner of means, the advantages of the route, via the Kanawha Valley to the Ohio, where the meeting say the people of Ohio are ready to meet Virginia with a railroad thence to Chillicothe, to connect with the Ohio system of roads at that place.—*Dispatch.*

Seaboard and Roanoke Railroad.—The cars now run as far as Franklin. Fare between Portsmouth and Franklin $1,75. Children and colored persons 87½ cents. This road will be completed as far as Weldon by the early part of the summer.—*Roanoke Rep.*

Orange and Alexandria Railroad.—We learn from the Alexandria Gazette that the Alexandria railroad company have contracted with Mr. James Dunlap, of Petersburg, agent for the iron manufacturers in Wales, for the delivery of 2,500 tons railroad iron for the use of the road. The whole to be delivered by December next. This purchase, with that heretofore made and already received, will lay down sixty miles of road.

Maryland.

The Baltimore American states that a project of a railroad connection between Baltimore and Haggerstown, by the route through Westminster and Hannan's Gap, is engaging the serious attention of the people of Carroll, Frederick and Washington counties. It will traverse one of the most fertile and productive sections of Maryland.

The Tehauntepec Expedition.

The steamer Alabama returned to New Orleans on the 10th inst., from her trip to the Isthmus of Tehauntepec with the surveying expedition. The New Orleans papers contain some interesting accounts of the trip. The Alabama, on her outward passage, left New Orleans on the 10th of December, and arrived at Vera Cruz on the 16th. She was detained at the latter port several days on account of a refusal on the part of the local authorities to grant a permission to prosecute the voyage until definite instructions had been received from the capital. The permit at length arrived, and she departed on the evening of the 23d. On the morning of the 25th she entered the Coatzacoalcos river, and in the evening arrived at Minatiltan. At this place the surveying expedition was divided into three parties; the first or hydrographic party was led by Lieutenant Temple, U. S. Navy, and the other two by Messrs. J. J. Williams and J. C. Avery.

The hydrographic party was to commence work on the 31st of December, on a survey of the river above and below Minatitlan, with a re-survey of the mouth below. The land parties were to proceed up the river in a few days. The width of the river at Minatitlan is said to be not less than 780 feet, and the depth of the water not less than 650. The town of Minatitlan is 18 miles from the mouth of the river. It is an inconsiderable place, containing from 200 to 300 inhabitants. The people evinced a mixed race, destitute of energy, and living a life of idleness. The soil in this region is extremely fertile, producing many vegetables spontaneously and domestic animals abound, so that no exertion is necessary for the procurement of food. The navigation of the river can be made good to that place for the largest size ships, and forty miles further for ordinary shipping. It is entirely free from bars and snags, and has advantages not inferior to those of any river of its size in the United States. It is stated that the minds of all who are there are impressed with a full belief of the practicability of the route across the Isthmus.

Marvels in the Cornish Mines.

Some of the mines are truly grand undertakings. The consolidated mines, the largest of the Cornish group, employ upwards of 3,000 persons. One of its engines pumps water from a direct depth of 1,600 feet, the weight of the pumping apparatus alone being upwards of 500 tons; the pumping-rod is 1,740 feet long, and it raises about 2,000,000 gallons of water in a week, from a depth equal to five times the height of St. Paul's. These are, indeed, wonders to marvel at! The consolidated and united mines, both belonging to one company, are stated to have used the following vast quantities of materials in a year: Coals, 15,270 tons; candles, 132,144 lbs.; gunpowder, 82,000 lbs.; leather straps, &c., 13,493 lbs.; pick and shovel handles, 16,698 dozens. Sir Charles

Lemon has estimated that, in the whole of the Cornish mines, $13,000 worth of gunpowder is used anuually; that the timber employed in the underground works equals the growth of 140 square miles of Norwegian forest, and that 37,000,000 tons of water are raised annually from the mines.

New York.

It is stated that new subscriptions to the stock of the Williamsport and Elmira railroad have been received to the amount of $500,000, and that the owners of the 25 miles already constructed from Williamsport to Ralston, have surrendered their rights to the corporation, in consideration of receiving stock for the same. At a late meeting of the directors the books were closed, and the whole line placed under contract. Joseph Gonder, jun., one of the enterprising firm, who has just finished the York and Cumberland railroad, and also one of the firm who finished, about a year ago, the railroad from Elmira to Seneca Lake, has contracted to re-lay, with a T rail, the 25 miles already constructed and to put it in complete repair, and also to construct the whole line of 50 miles from Ralston to Elmira—the track to correspond in width with the New York and Erie road.

The directors have authorised the taking of a loan to the amount of $600,000, on 7 per cent. Bonds secured by mortgage of the whole road, a distance of 75 miles. In addition to this security, the company is entitled to the descending tolls for 80 miles of the Pennsylvania canal, on all articles brought on to the canal at Williamsport by the railroad, for the period of 15 years, after the completion of a single track to Elmira.

Complete Census of Virginia.

The First Auditor of Virginia has prepared the following statement of the population of Virginia, as returned by the United States Marshals:—

Districts.	White.	F.Col'd.	Slaves.	Total.
CENSUS OF 1830.				
Valley	134,791	4,745	34,772	174,308
Trans Allegh'y.	183,854	1,598	18,665	204,117
Piedmont	208,656	12,026	230,861	451,542
Tidewater	167,001	28,980	185,457	281,438
Aggregates	694,302	47,349	469,755	1,211,405
CENSUS OF 1840.				
Valley	136,796	5,188	33,697	165,681
Trans Allegh'y.	234,774	2,360	20,040	257,174
Piedmont	198,868	13,036	222,460	434,359
Tidewater	170,560	29,262	172,791	372,583
Aggregates	740,608	49,841	468,788	1,239,797
CENSUS OF 1850.				
Valley	163,177	5,319	38,798	207,294
Trans Allegh'y.	331,586	2,482	24,436	358,504
Piedmont	216,717	13,166	234,057	463,939
Tidewater	187,955	32,790	178,681	399,126
Aggregates	899,134	53,757	475,972	1,428,863

In order to exhibit more conspicuously the relative progress of eastern and western Virginia since 1840, we make up from the foregoing figures the following tabular comparison:

	1840.	1850.	Inc.
Eastern whites	369,398	404,371	34,973
" free colored	42,393	45,956	4,563
" slaves	395,251	412,738	17,487
Total	806,942	863,065	56,123
Western whites	37,560	494,763	123,203
" free colored	7,548	7,801	253
" slaves	33,737	63,234	9,497
Total	433,863	565,790	132,943

These results are considerably more favorable to eastern Virginia than it was anticipated, when the convention adjourned in the fall, that they would be. There has been a decided increase in both its white and slave population. Whilst the western majority of whites is 90,000, instead of 150,000 as was predicted, the eastern majority of aggregate population is 297,267.

If the representative federal number be about 100,000, as is commonly supposed, the State delegation in the House of Representatives will be reduced from 15 to 12.

Pennsylvania.

Youghioghany Slack Water.—Mr. White: I do not recollect having seen any description of this valuable improvement, and, I think it is due to the judicious and skillful engineer, James E. Day, under whose direction it was carried on and completed, that it should be publicly noticed. The work is now in successful operation, and gives very strong promise of yielding pleasing dividends to the stockholders, great facilities to the country through which it passes, increased business to our city, and it would be hard, indeed, that the engineer who directed its execution should be forgotten.

The law incorporating the company fixed the maximum lift of the locks at eight feet, but a supplement increased the lift to thirteen feet thirty-three hundredths.

The total fall of the Youghioghany, from Robbstown or West Newton, to the foot of dam No. 2, on the Monongahela river was twenty-six feeet 66-100, or 26 feet 8 inches.

Two locks then of the maximum lift allowed by the supplementary act, divides the fall into equal lifts of 13 feet 4 inches each.

The locks are constructed on the composite plan, the walls laid of dry masonry, and laid with two courses of jointed plank sheeting.

The dams are constructed of earth work filled in with stone sloped on the upper side 15 inches to every foot of rise, and on the lower side 5 feet 22-100 to one foot rise. The whole height of the dams from the bed of the river is from 16 to 18 feet.

The mitre sill of lock No. 1, on the Youghioghany, is 4 feet below the comb of the dam No. 2, on the Monongahela, and dam No. 1, on the Youghioghany, throws 5 feet of water upon the mitre sill of the dam above.

This difference was made under the belief that the rapidly and increasing trade on the Monongahela will soon obtain for that company the privilege of increasing the height of their dams, and thereby secure to the Youghioghany company a depth of full five feet at the lowest stage of water, and thus accommodate the coal trade from the head of their upper pool, without any further expenditure of money by the Youghioghany company.

The engineer in planning the work, looked to the means of the company as well as to the trade to be accommodated. C.

[*Pittsburgh Gazette.*

The Tariff.

The following proposed modifications of the existing tariff were offered as an amendment to the deficiency bill, in the House of Representatives on Tuesday, by Mr. Strong:—

And be it further enacted, That on and after the first day of April next, the duties required by law to be levied, collected, and paid on goods, wares, and merchandise imported into the United States, shall be assessed on the market value thereof, with the addition of such charges as are now imposed by law, at the time and place of export, provided that upon all descriptions of iron, upon machinery made wholly or in part of iron, and upon anchors, chain-cables and anvils, the duties shall be assessed upon the average prices, with charges added, which like descriptions of iron bore in the principal ports of the country whence imported, during the ten fiscal years immediately preceding the year of importation, such values and charges to be ascertained and declared by the Secretary of the Treasury as the basis for each succeeding fiscal year.

Sec. 2. *And be it further enacted*, That on and after the first day of April next, the duties upon window glass and linseed oil shall be thirty per cent, and upon all descriptions of iron, upon machinery made wholly or in part of iron, and upon chain-cables, anchors and anvils, the duties shall be 40 per cent, provided that any excess of duties impored by this act on any railroad iron imported for the use of any railroad, and actually and permanently laid down for the use of such railroad, within one year after the passage of this act, shall be remitted by the Secretary of the Treasury, on satisfactory proof being furnished that such iron was so imported and laid down.

Sec. 3. *And be it further enacted*, That, on and after the first day of April next, the duties upon all cordage and yarns composed wholly or in part of hemp or grass, upon all manufactures composed wholly or in part of sheep's wool, and upon all refined sugar, shall be respectively ten per centum ad valorem, over and above the rate of duty now assessed by law on hemp and sheep's wool manufactured, and raw sugar.

Sec. 4. *And be it further enacted*, That, on and after the first day of April next, raw silk, indigo, and all articles which on the twenty-ninth day of July, 1846, were exempt from duty, shall be admitted free of duty.

Sec. 5. *And be it further enacted*, That to prevent frauds by undervaluations, and to insure uniformity in appraisements, there shall be appointed, as now provided for local appraisers, three appraisers at large, who shall prepare rules for the government of the local appraisers, visit the several ports of the United States, and perform such other duties as the secretary of the treasury may approve and direct; each of which appraisers shall receive an annual compensation of two thousand dollars, with his necessary travelling expenses, to be fixed by the secretary of the treasury.

Sec. 6. *And be it further enacted*, That the periods during which, by existing laws, imports deposited in public warehouses may be withdrawn for immediate exportation or consumption, be and the same are hereby extended to three years.

[On Wednesday, this amendment was decided to be out of order, and it was not received, and the prospect of any revenue the present session is at an end we presume.]

ANNUAL REPORT

Of the President and Directors of the East Tennessee and Georgia Railroad Company, to the Stockholders in said Company, at their meeting on Monday, January 6th, 1851.

The contract which existed at the time of the last yearly meeting of the stockholders, with Duff Green, for the construction of the road, was by agreement, surrendered by him on the 5th of April last, the company agreeing to pay him the estimates for work, &c., up to that date; out of which were to be paid, first, the debts due from said Green to his sub-contractors, for work, and which debts were by the agreement assumed by the company, and the balance, if any, to said Green. The debts thus assumed by the company, it is ascertained, will fully cover the estimates at said date, and they are now paid, with the exception of two or three small claims yet outstanding.

After the surrender of the contract by Gen. Green the work was continued by the sub-contractors, for the company, until some time in May, when a contract was entered into with Messrs. Wm. Grant & Co., for furnishing the balance of the materials needed—iron rails, chairs and spikes excepted—and for completing the work, including the laying of the main track and turn outs from Dalton to the Hiwassee river, for the sum of $90,000, one half payable in the stock of the company, and the other half in five per cent state bonds. This aggregate sum may be increased or diminished by the result of the actual measurement of items of the work, an approximate estimate, by the item being set down by the engineer in the contract as the amount of work to be done.

In April, and again in July, the board of directors, by resolutions, authorised and directed the President of the company, A. D. Keys, Esq., in conjunction with the agent of the State, and the engineer of the company, M. B. Prichard, Esq., to purchase iron to lay the road from Dalton to the Tennessee river, and the necessary locomotives, cars, &c., to put the road in complete operation—and authorised the issuing of stock of the company and company bonds, to be used in contracts at par.—This authority to issue bonds and stock, in contracts, was given and used to enable the company, at once, to purchase a sufficient quantity of iron and ample equipments to finish and put the road in complete and successful operation from Dalton to the Tennessee river, the State loan by itself being insufficient in amount to effect those objects.

In the latter part of July a contract was closed with Messrs. Bailey, Brothers & Co., of England,

for eight thousand tons of rails of the T pattern, of best quality of railroad iron, to weigh 57 lbs. per lineal yard, to be delivered at Charleston or Savannah at the option of our company; four thousand tons to be shipped before the first of the present month, and as much earlier as practicable; and the remaining four thousand tons before the first of June next, and as much earlier as practicable. On delivery at Savannah, which port we have selected, we are to pay $22 75 cents, in cash, $4 in stock of the company, and $6 in the company's bonds at thirty years, 6 per cent interest to be paid half yearly in the city of New York; making $32 75 cents per ton of 2,000 lbs—added to which we have to pay the tariff duty of about $6 14 cts. per ton, and making the aggregate cost at Savannah $38 89 cents per ton as aforesaid.

This contract, under all the circumstances with which the company was surrounded at the time it was made, is exceedingly favorable to the company, and secures the completion of the road to the Tennessee river, at an early day, beyond a doubt.

Owing to several unavoidable occurrences, such as stress of weather at sea, &c., the first cargoes did not reach this country as soon as they were to have arrived. Three cargoes have, however, now arrived and two others, the sailing of which we have accounts, are daily looked for—all together making over three thousand tons, or the greater part of the quantity required to finish the road to the Hiwassee river. The rails are now being delivered at our southern terminus daily, and those that have come to hand are considered by competent judges to be of the very best quality in pattern, material and workmanship.

Four first class locomotives are contracted for—two of them to be made at the Globe Locomotive Works, South Boston, and two by Messrs. Norris Brothers, Philadelphia. We are informed that they are all in a state of forwardness, and two of them now nearly or quite completed. Those from Boston will be delivered at Savannah in a short time, and the two at Philadelphia will be ready for delivery by the middle of March or first of April. We have every assurance, and are confident that all these machines will be of the very best description in material and workmanship. The cost of two of them, at the works is $7,000 each, and the other two $7,500 each.

Two first class passenger cars are engaged at Boston at 2,000 dollars each, with all the best improvements on the truck, boxes, &c.

Arrangements are now being made to procure from the workshops in Augusta, a limited number of baggage and freight cars, which will be needed in a very short time, and in fact a few are needed now.

We have purchased of Messrs. Smith and Tyson, of Baltimore, on favorable terms, wrought iron chairs and spikes for the first forty miles of the road, to be delivered and paid for at Savannah as needed. A part of them are already received, and are of the very best quality.

A contract has been made with the Georgia railroad and banking company for the transportation of our iron, &c., from Savannah to Dalton, at $8 75 per ton of 2240 lbs.—to cover all charges—one dollar and fifty cents per ton of which is to be paid in stock of our company, and the balance in cash.

All the foregoing contracts are considered favorable ones for the company. They are filed in the office, and will be submitted to the inspection of the stockholders present, if desired and called for.

The grading and masonry on the first section to the Hiwassee river is completed, with the exception of a shallow cut near the State-line which is not quite finished. The timbers are prepared for the entire section, and about twelve miles of mud sills and cross ties are laid down ready to receive the iron rails. Six gangs of laborers are engaged at different points, rapidly putting down the timber. An efficient force is also engaged in laying down, adjusting and spiking the iron rails. About two miles are laid and ready for the cars. We can now calculate with a great degree of certainty, that if the winter and spring prove ordinarily favorable for prosecuting the work, and the iron can be delivered as fast as it can be laid down, that the road will be finished to the Hiwassee river by the first of June, and possibly a month sooner.

It is our duty to state that the contractors, Messrs. Grant & Co., are pushing forward the work with energy, and are finishing it off in an excellent and satisfactory manner. Had it not been for the unexpected delay in the receipt of the iron, and other unavoidable obstacles hindering the progress of the work, they would, by this time, have had their contract nearly completed.

The completion of the road to the Hiwassee river being now provided for, and rendered certain at an early day, the iron and equipments being provided not only for the first section, but also for the extension of the road to the Tennessee river, the directors have not forgotten, or omitted to discuss the necessity and expediency of putting under contract the work for the completion of the road between the two rivers.

When adequate means are secured for this purpose, we will then look to the extension to Knoxville with increased interest and confidence. The completion of the two first sections will render the accomplishment of the third comparatively easy. We will then, in addition to the income of the road and the bettered condition of the county, have ample resources in credit and friends.

To secure the completion of the road to the Tennessee river, and its consequent blessing, we now only need, to be raised, by a subscription and payment of stock, or in some other way, about $50,000, a part of which is already subscribed. With that sum in cash, in addition to the present means of the company, we can finish and equip that portion of the road, and liquidate the remaining balance of the debt of the old company, amounting to a little over $30,000.

The prospects our company are brightening in many respects. Its condition is growing better daily, and must now improve rapidly with care and prudence in the management of its affairs. Its indebtedness at present is inconsiderable, aside from the State loan, which will not be burdensome. The old debts can be paid within the present year with proper management, without retarding the prosecution of the work. But few, if indeed any, stock companies in the union, with the same amount of work done, and materials and equipments furnished, can make a better showing than ours.

Our road completed on the plan adopted and with the iron purchased, will be one of the best in the union. In firmness of road bed, easy grade, straightness of line, excellence of superstructure, size, pattern and quality of iron rail, it will compare favorably with the best. The motive power and other equipments will be of the best class. It will cost the present stockholders, including the State completed to the Tennessee river, a little over 80 miles, with ample equipments for doing business, about the sum of $1,270,000; or a little over $15,875 per mile, but little over one-half of the average cost per mile of good roads in the United States. But suppose we put down $1,300,000 as the aggregate cost which will be more than sufficient to cover all contingencies. Six per cent on that sum will be $78,000. Every well informed man at all acquainted with the history of railroads, and with the position and prospects of ours, will be satisfied that our road will pay that sum after deducting all the expenses of working, repairs, &c. Indeed we will be disappointed in our calculations if it does not pay 10 per cent the third year after its completion to the Tennessee. The stockholders need not desire a better property than it will be. They could not obtain a better in any railroad in the union, for our road will occupy a favorable position as a part of that great line of railway, connecting the north and northeast of our extended country with the south and southwest, the main trunk extending through East Tennessee and Western Virginia, and at each end reaching out its branches in every direction. This main trunk can never have any competitor or rival in any parallel road, and must draw to it all the extensive commerce, supplying the wants and subserving the interests of one million of people, and the teeming travel flowing in from each and from a great distance on either side.

The company are indebted to the Engineer-in-Chief for his energy and perseverance in their service, and especially for his exertions in negotiating some of the contracts hereinbefore mentioned.

ENGINEERS.

Atkinson, T. C.,
Alexandria and Orange Railroad, Alexandria, Va.

Clement, Wm. H.,
Little Miami Railroad, Cincinnati, Ohio.

Cozzens, W, H.,
Engineer and Surveyor, St. Louis, Mo.

Alfred W. Craven,
Chief Engineer Croton Aqueduct, New York.

Floyd-Jones, Charles,
Alton and Sangamon Railroad, Alton, Illinois.

Gzowski, Mr.,
St. Lawrence & Atlantic Railroad, Montreal, Canada.

Grant, James H.,
Nashville and Chattanooga R. R., Nashville, Tenn.

S. W. Hill,
Mining Engineer and Surveyor, Eagle River, Lake Superior.

Holcomb, F. P.
Southwestern Railroad, Macon, Ga.

Latrobe, B. H.,
Baltimore and Ohio Railroad, Baltimore, Md.

Miller, J. F.,
Buffalo and Conhocton Valley Railroad, Bath, N. Y.

Morris, Elwood,
Schuylkill Navigation, Schuylkill Haven, Pa.

Nott, Samuel,
Lawrence and Manchester Railroad, Boston,

Prichard, M. B.,
East Tennessee and Georgia R. R., Cleveland, Tenn.

W. Milnor Roberts,
Bellefontaine and Indiana Railroad, Marion, Ohio.

Roberts, Solomon W.,
Ohio and Pennsylvania Railroad, Pittsburgh, Pa.

Sanford, C. O.,
South Side Railroad, Virginia.

Steele, J. Dutton,
Pottstown, Pa.

Trautwine, John C.,
Panama Railroad—Address through office of Panama Railroad Co., 78 Broadway, N. Y.

Tinkham, A. W.,
United States Fort, Bucksport, Me.

Troost, Lewis,
Alabama and Tennessee Railroad, Selma, Ala.

Whipple, S.,
Civil Engineer and Bridge Builder, Utica, N. Y.

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Of all descriptions, *Warranted* Good.

FILES.

Manufacturers of Machinists' Warranted Best Cast Steel *Files*, expressly for working upon Iron and Steel, made very heavy for recutting.

☞ A full Stock of *Steel* and *Files* at all times on hand. 6m4

Walter R. Johnson,

CIVIL AND MINING ENGINEER AND ATTORNEY for Patents. Office and Laboratory, F St., opposite the Patent office, Washington, D. C.

Dudley B. Fuller & Co.,

IRON COMMISSION MERCHANTS,

No. 139 GREENWICH STREET,

NEW YORK.

Manning & Lee,

GENERAL COMMISSION MERCHANTS,

NO. 51 EXCHANGE PLACE,

BALTIMORE.

Agents for Avalon Railroad Iron and Nail Works. Maryland Mining Company's Cumberland Coal 'CED —'Potomac' and other good brands of Pig Iron.

Samuel Kimber & Co.,

COMMISSION MERCHANTS

WILLOW ST. WHARVES, PHILADELPHIA.

AGENTS for the sale of Charcoal and Anthracite Pig Iron, Hammered Railroad Car and Locomotive Axles, Force Pumps of the most approved construction for Railroad Water Stations and Hydraulic Rams, etc., etc.

July, 27, 1849.

James Herron, *Civil Engineer*,

OF THE UNITED STATES NAVY YARD,

PENSACOLA, FLORIDA.,

PATENTEE OF THE

HERRON RAILWAY TRACK.

☞ Models of this Track, on the most improved plans, may be seen at the Engineer's office of the New Yo and Erie Railroad.

PLUSHES

FOR

Railway Cars & Omnibuses.

F. S. & S. A. MARTINE,

112 WILLIAM ST., NEAR JOHN.

ARE now receiving a large and complete assortment of Plain and Figured PLUSHES, of their own importation, which will be sold at the lowest market price, viz: Crimson, Maroon, Scarlet, Green, Blue, Purple, etc.

ALSO—CURLED HAIR, the best manufactured in market.

To Railroad Companies, Machinists, Car Manufacturers, etc., etc.

CHARLES T. GILBERT,

NO. 80 BROAD ST., NEW YORK,

IS prepared to contract for furnishing at manufacturer's prices—

Railroad iron,

Locomotive Engines,

Passenger and Freight Cars,

Car Wheels and Axles,

Chairs and Spikes.

Orders are invited; and all inquiries in relation to any of the above articles will receive immediate attention.

Manufacture of Patent Wire ROPE AND CABLES,

For Inclined Planes, Suspension Bridges, Standing Rigging, Mines, Cranes, Derrick, Tillers, &c., by

JOHN A. ROEBLING, Civil Engineer,

TRENTON, N. J.

FORGING.

Ranstead, Dearborn & Co.,

MANUFACTURERS OF

LOCOMOTIVE CRANKS AND CAR AXLES,

ALSO

WROUGHT IRON SHAFTING,

And All Kinds of Hammered Shapes.

Office 25 Foster's Wharf, Boston.

Samuel D. Willmott,

MERCHANT, AND MANUFACTURER OF

CAST STEEL WARRANTED SAWS,

—AND FILES—

IMPORTER OF THE

GENUINE WICKESRLY GRINDSTONES

NO. 8 LIBERTY STREET,

NEW YORK.

Railroad Instruments.

THEODOLITES, TRANSIT COMPASSES, and Levels, with Fraunhoffers Munich Glasses, Surveyor's Compasses, Chains, Drawing Instruments, Barometers, etc., all of the best quality and workmanship, for sale at unusually low prices, by

E. & G. W. BLUNT,

No. 179 Water St., cor. Burling Slip.

New York, May 19, 1849.

IRON.

Iron.

Pig Iron, Anthracite and Charcoal; Boiler and Flue Iron, Spring and Blistered Steel, Nail Rods, Best Refined Bar Iron, Railroad Iron, Car Axles, Nails, Stove Castings, Cast Iron Pipes of all sizes, Railway Chairs of approved patterns' for sale by

COLEMAN, KELTON & CAMBELL,

109 N. Water St., Philadelphia.

Stickney & Beatty,

DEALERS IN IRON AND IRON MANUFACTURERS.

AGENTS for the Balt. City Rolling Mill, from which establishment they are prepared to furnish Ellicott's round, square, and flat bar iron, puddled and charcoal boiler plates and billet iron—also agents for the sale of the Laurel, Gunpowder and Locust Grove (Balt.) forge pig irons, Locust Grove and Laurel Irons for car wheels, Caledonian boiler blooms made from cold blast iron, Old Colony and anti-Eatam nails, Wm. Jessop & Son's steel, Coleman's blister steel and nail rods, sheet, hoop, band, oval and common English iron.

Nos. 18 and 20 South Charles st., Baltimore.

Railroad Iron.

THE MOUNT SAVAGE IRON WORKS, Alleghany county, Maryland, having recently passed into the hands of new proprietors, are now prepared, with increased facilities, to execute orders for any of the various patterns of Railroad Iron. Communications addressed to either of the subscribers will have prompt attention. J. F. WINSLOW, *President*

Troy, N.Y.

ERASTUS CORNING, Albany

WARREN DELANO, Jr., N.Y

JOHN M. FORBES, Boston.

ENOCH PRATT, Baltimore, Md

November 6, 1848.

Railroad Iron.

THE SUBSCRIBERS ARE PREPARED TO take orders for Railroad Iron to be made at their Phœnix Iron Works, situated on the Schuylkill River, near this city, and at their Safe Harbor Iron Works, situated in Lancaster County, on the Susquehannah river; which two establishments are now turning out upwards of 1800 tons of finished rails per month.

Companies desirous of contracting will be promptly supplied with rails of any required pattern, and of the very best quality.

REEVES, BUCK & CO.

45 North Water St. Philadelphia.

March 15, 1849.

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM ONE AND A QUARTER TO SEVEN INCHES IN DIAMETER.

THE ONLY Tubes of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER & SON, Patentees,

28 Platt street, New York.

Railroad Iron.

THE UNDERSIGNED ARE PREPARED TO contract for the delivery of English Railroad Iron of favorite brands, during the Spring. They also receive orders for the importation of Pig, Bar, Sheet, etc. Iron. THOMAS B. SANDS & CO.,

73 New street,

February 3, 1849. New York.

Iron Store.

THE Subscribers, having the selling agency of the following named Rolling Mills, viz: Norristown, Rough and Ready, Kensington, Triadelphia, Pottsgrove and Thorndale, can supply Railroad Companies, Merchants and others, at the wholesale mill prices for bars of all sizes, sheets cut to order as large as 58 in. diameter; Railroad Iron, domestic and foreign; Locomotive tire welded to given size; Chairs and Spikes; Iron for shafting, locomotive and general machinery purposes; Cast, Shear, Blister and Spring Steel; Boiler rivets; Copper; Pig iron, etc., etc.

MORRIS, JONES & CO.,

Iron Merchants,

Schuylkill 7th and Market Sts., Philadelphia.

August 16, 1849. 1y33

Glendon Refined Iron.

Round Iron,	Band Iron,	Hoop Iron,
Square "	Flat "	Scroll "

Axles, Locomotive Tyres,

Manufactured at the Glendon Mills, East Boston, for sale by GEORGE GARDNER & CO.,

5 Liberty Square, Boston, Mass.

Sept. 15, 1849. 3m37

PATENT HAMMERED RAILROAD, SHIP & BOAT SPIKES.—The Albany Iron Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes from 2 to 12 inches in length, and of any form of head From the excellence of the material always used in their manufacture, and their very general use for rail roads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscribers at the works will be promptly executed.

JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above Spikes may be had at factory prices, of Erastus Corning & Co Albany; Merritt & Co., New York; E. Pratt & Brother, Baltimore, Md.

RAYMOND & FULLERTON, 45 Cliff st.

Bowling Iron. Stamped B.O.

Railway Tire Bars
Locomotive and other Axles
Boiler Plates
Rivet Iron
Locomotive Frame do
Bars,

and every other description of this superior Iron.

The subscribers, agents for the sale of Bowling Iron, are prepared to execute orders for importation, especially for railway and machinery uses, with despatch from the manufacturers.

RAYMOND & FULLERTON, 45 Cliff st.

Ibbotson, Brothers & Co's CELEBRATED CAST STEEL AND

Best Cast Steel Royal Improved Files, well known as better adapted for Engineers' and Machinists' purposes than any now in use in the United States.

Every description of Square, Octagon, Flat and Round Cast Steel, Sheet, Shovel and Railway Spring Steel, etc., and Steel to order for any purposes—manufactured at their works in Sheffield—and universally known by the old stamp "Globe."

HENRY I. IBBOTSON, Agent.,
218 Pearl st., New York.

Railroad Iron. SPIKES.

Wrought Iron CHAIRS, New Pattern.

THE Undersigned continues to contract, as usual, for the above articles. The reputation already acquired for their excellent quality is a guarantee that strict attention shall continue to be paid to the wants and interests of purchasers.

CHARLES ILLIUS,
20 Beaver St., New York.

WILLIAM JESSOP & SONS' CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—square, flat and octagon.
Best warranted Cast Steel—square, flat and octagon.
Best double and single Shear Steel—warranted.
Machinery Steel—round.
Best and 2d gy. Sheet Steel—for saws and other purposes.
German Steel—flat and square, "W. I. & S." "Eagle" and "Goat" stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms by WM. JESSOP & SONS,
91 John street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce street, Philadelphia.
Alex'r Fullerton & Co., 119 Milk street, Boston.
Stickney & Beatty, South Charles street, Baltimore.

May 6, 1848.

Railroad Iron.

B. O. Railway Tires, Railway Wheels,
Scotch Pig Iron, Tin Plates and Banca Tin,
Muntzs Patent Metal Sheathing,
Baltimore Copper.

Contracts for Rails made on behalf of the manufacturers, for delivery at any ports in the United States, at fixed prices.

Bowling Tires and Tire Bars and Scotch Pigs imported to order.

Muntz's Ship-sheathing, and a general stock of Tin Plates and Banca Tin in store, and for sale by

IRONDALE PIG METAL, MANUFACTURED and for sale by the Bloomsburg Railroad Iron Co.
LINDLEY FISHER, Treasurer.
75 N. Water St., Philadelphia.

Faggotted Car and Engine Axles

FORGED by RANSTEAD, DEARBORN & Co.,
Boston, Mass.

These Axles enjoy the highest repulation for excellence, *and are all warranted.*

Railroad Iron.

3,000 TONS C. L. MAKE 63½ lbs. per yard, now landing and to arrive.

Also contracts made for future delivery of above superior make English Iron.

300 Tons Banks Best Iron, Round, Square and Flat.
200 " English Bar " " " "
10 " 9-16 Square Iron for Railroad Spikes.

For sale in lots to suit purchasers by
DAVID W. WETMORE.
New York, March 26, 1850. 3m

Railroad Iron.

CONTRACTS made by the subscribers, agents for the manufacturers, for the delivery of Railway Iron, at any port in the United States, at fixed prices, and of quality tried and approved for many years, on the oldest railways in this country.

RAYMOND & FULLERTON, 45 Cliff st.

JOHNSON, CAMMELL & Co's Celebrated Cast Steel, AND

ENGINEERING AND MACHINE FILES, which for quality and adaptation to mechanical uses, have been proved superior to any in the United States. Every description of square, octagon, flat and round cast steel, sheet, shovel and railway spring steel, best double and single shear steel, German steel, flat and square, goat stamps, etc. Saw and file steel, and steel to order for any purposes, manufactured at their Cyclops Steel Works Sheffield.

JOHNSON, CAMMELL & CO.,
100 William St., New York.

November 23 1849.

Bowling Tire Bars.

40 Best Flange Bars 5½x2 inches, 11 feet long.
40 " 5½x2 " 7 feet 8 in. long.
40 " Flat " 6x2 " 11 feet long.
40 " 6x2 " 7 feet 8 in. long.

Now in store and for sale by
RAYMOND & FULLERTON,
45 Cliff street.

Wheel, Forge and Foundry Iron.

LOCUST GROVE Wheel Iron of great strength and superior chilling property.

Balt. Charcoal Forge Iron, from Patuxent, Curtis Creek and Gunpowder furnaces.

Elkridge Foundry Iron, of superior strength and softness. Anthracite and Charcoal Iron from Pennsylvania and Virginia. Gas and Water Pipes, Lamp Posts from Elkridge furnace.

LEMMON & GLENN,
3m9 62 Buchanan's Wharf, Baltimore.

S. S. Keyser & Co., IRON WAREHOUSE,

Corner of South and Pratt Streets,
BALTIMORE, MD.

Selling Agents for the Rough and Ready Bar Iron and Elk Boiler and Flue Iron Rolling Mills, Sarah and Taylor Furnaces, and Wrightsville Hollow Ware Foundry, and Dealers in Bar and Sheet Iron, and Cast, Sheer, German, Blister, Spring and Electerised Steel, etc., etc.

Smith & Tyson,

GENERAL COMMISSION MERCHANTS,
No. 25 South Charles St., Baltimore, Md.

AGENTS for the Celebrated Columbia Pig Iron, suitable for Car Wheels and Chilled Rolls.

Columbia refined Charcoal Blooms; Refined Charcoal Juniatta Billet Iron for Wire; Refined Iron for Bridging, of great strength; Cut Nails, Spikes, and Brads; Railroad Spikes and Wrought Chairs. 22tf

Tredegar Iron Works.

ROLLING MILL FOUNDRY AND MACHINE SHOPS. The undersigned continues to manufacture at his Works in this city (from best charcoal metal) Bar Iron of every description, embracing—Rounds and Squares, from ¼ to 5 inches diameter. Flats, from ¾ to 7 inches, all thicknesses. Bands and Scrolls, all sizes. Boiler plate and Plough Iron. Railroad and Locomotive Axles and Tires. Locomotive Frames, Spikes and Plates. Hoops, Ovals, Half Ovals, Half Rounds, Angle, T, L, and indeed every description of Iron usually manufactured, all of which he warrants to be equal to any made in this country. He also manufactures at his Foundry and Machine Shops all descriptions of Railroad Work, say, Locomotives, Railroad Wheels and Axles complete and ready for the road, Railroad Chairs, etc. Also, Marine and Stationary Engines all sizes, Sugar mills and Engines, Horse mills, and every kind of Machinery usually required for the operations of the country. He has paid particular attention to getting up machinery, etc., for Gold Mine operations, and those in want of such work might find it to their advantage to give him a call. J. R. ANDERSON.

Richmond, Va., Sept. 10, 1850.

CUT NAILS OF BEST QUALITY, BAR IRON (including Flat Rails) manufactured and for sale by FISHER, MORGAN & CO.,
75 N. Water St., Philadelphia.

Car Wheel Iron.

100 Tons "Columbia" No. 2 Cold Blast Charcoal Iron.
300 Tons "Salisbury" No. 1, do. do.

For sale by CHARLES T. GILBERT,
No. 80 Broad st.

New York, Sept. 21, 1850.

Railroad Spikes.

THE subscribers are prepared to make and execute contracts for Railroad Spikes of a superior quality, manufactured by the New Jersey Iron Company, at Boonton. DUDLEY B. FULLER & CO.
139 Greenwich st. corner of Cedar.

Railroad Iron.

1650 Tons, weighing about 61 lbs. per yard, 40 tons, weighing about 52 lbs. per yard, and 825 tons, weighing about 53½ lbs. per yard, of the latest and most approved patterns of T rail, for sale by
BOORMAN, JOHNSTON & CO.,
119 Greenwich street.

New York, Aug. 26, 1850.

N.B.—B., J. & Co are also prepared to take contracts for English rails, delivered in any of the Atlantic ports of the United States.

Railroad Iron.

THE Undersigned, Agents for Manufacturers, are prepared to contract to deliver Rails of superior quality, and of any size or pattern, to any ports of discharge in the United States.

COLLINS, VOSE & CO.,
74 South St.

New York, June 1, 1850.

Spikes, Spikes, Spikes.

ANY person wishing a simple and effective Spike Machine, or a number of them, may be supplie by addressing J. W. FLACK,
March 6, 1850. Troy, N. Y

Railroad Iron.

2000 Tons, weighing 58 pounds per lineal yard, of the most approved pattern of T rails, in store and to arrive, for sale by
COLLINS, VOSE & CO.,
74 South St.

New York, June 1, 1850.

Railroad Spikes, Boiler Rivets, etc.

THE Subscribers, Agents for the sale of James S. Spencer's, Jr., Railroad and Boat Spikes, Boiler Rivets, and Wrought Iron Chairs for Railroads, made at his Works near this city, will execute all orders with promptness, despatch, and of the best quality.

ALSO IMPORTERS of English refined and Merchant bar Iron; Extra refined Car and Locomotive Axles (from 3½ to 6½ inches in diameter); B. O. Locomotive Tire (welded by Baldwin). Also, supply Boiler and Flue Iron cut to pattern or otherwise.—Spring, Shear, and Cast Steel, etc., etc., etc.

T. & E. GEORGE.
Philadelphia, November 14, 1850.

Railroad Iron.

THE UNDERSIGNED, HAVING made arrangements abroad, are prepared to contract for the delivery of Foreign rails, of approved brands upon the most favorable terms.

They will also make contracts for American rails, made at their Trenton works, from Andover Iron, in whole or in part, as may be agreed upon.

They are prepared to furnish Telegraph, Spring and Market Wire; Braziers and Wire Rods; Rivets and Merchant Bars to order, all made exclusively from Andover Iron. The attention of parties who require iron of the *very best* quality for special purposes, is respectfully invited. COOPER & HEWITT,
17 Burling Slip, New York.

February 15, 1850.

Railroad Iron.

THE Undersigned, Agents for Manufacturers, are prepared to contract for the delivery of English, Welsh and Scotch Rails, of any pattern and weight, also for every description of English, Welsh, Scotch, and Swedish Iron, Railway Chairs and Spikes, Rivets, Bolts, Nuts, Washers, Chain Cables, Anchors, Tin Plates, German Spelter, Iron Castings, and every description of Machinery.

WILLIAM BIRD & CO.,
Iron and Tin Plate Merchants,
44 Wall st., New York.
And at 5 Martin's Lane, City, London,
and 140 Buchanan st. Glasgow.

July 27th, 1850.

Railway Iron.

THE Subscribers will contract to deliver, in the course of the ensuing Spring and Summer, the best English Rails, made by a particular specification, and of any pattern required.

DAVIS, BROOKS & CO.,
68 Broad st.

On hand for sale, English rails of 58 lbs. to the yard, made by particular specifications.

January 10, 1851. 2m

To Iron Masters.

WANTED—A Person to take charge of a Blast Furnace for Smeling Iron, for further information apply to COLLINS, VOSE & CO.,
74 South street.

Railroad Iron for Sale.

THE Mansfield and Sandusky City Railroad Co. have on hand from twelve to fifteen hundred tons of American Flat Bar Railroad Iron, weighing 38 lbs. to the lineal yard, which they offer for sale at reasonable rates.

The iron has been in use about four years, and is sound and in good condition. It is 2½ by ½.

It will be ready for delivery at short intervals between the opening of navigation in the spring and the 1st September next.

For further particulars inquire at the office of the company at Sandusky City, Ohio.

C. G. FORBES, President.

December 24, 1850.

Railroad Iron.

THE "Montour Iron Company" is prepared to execute orders for Rails of the usual patterns and weights, and of any required length not exceeding 30 feet per rail. Apply at the office of the Company,
No. 73 South 4th st., Philadelphia,

Or to the Agents,
CHOUTEAU, MERLE & SANFORD,
NO. 51 New st., New York.

September, 1850.

American Railroad Iron.

1000 Tons, weighing 50 lbs, per yard, manufactured by Reeves, Abbott & Co., at the Safe Harbor Iron Works, and now lying in yard at Brooklyn, for sale by

CHOUTEAU, MERLE & SANFORD,
No. 51 New street.

Tubes, Tubes, Tubes.

THE undersigned have received special permission from, and are in direct communication with, the *Birmingham Patent Lap Welded Iron Tube Company*, for the sale of their very excellent and superior Boiler and Gas Tubes in large or small quantities.—These Tubes are sold very extensively in England and on the continent of Europe are sold exclusively by

WM. BIRD & CO.,
Iron and Tinplate Merchants,
44 Wall st., New York
5 Martin's Lane, City, London,
and 140 Buchanan st., Glasgow.

Wanted.

WANTED—A Situation in a Civil Engineer's office, by a Young Gentleman from Scotland—has had six years' experience as a practical Draughtsman, Architect, Surveyor, and Leveller in one of the principal civil engineering establishments in Scotland. First rate reference given. Apply to Messrs. Cooper & Hewitt, 17 Burling Slip, or to

JAS. SNEDDON,
23 Harrison st.

Wanted.

A Second-hand Locomotive of 10 to 15 tons weight. A note, giving lowest terms, addressed to A. B., Railroad Journal Office, will receive attention.

January 9, 1850.

Wanted.

A Second-hand Locomotive, weighing from 10 to 15 tons. A note, addressed A. B., at "Railroad Journal" office, will receive attention, if sent soon.

January 21, 1851.

For Sale.

TWO Locomotive Engines—10½ tons weight, built by Baldwin. Also Four Eight-wheeled Passenger Cars, with side seats, all in good running order. Apply to WM. E. MORRIS,

Office of Philad., Germantown & Norristown Railroad Co., 9th and Green sts., Philadelphia. 3m5

Great Work on Bridge Building, etc., etc.

JUST published in medium folio, One Dollar, 75 cts. to subscribers.

Part IV of a "THEORETICAL AND PRACTICAL TREATISE ON THE CONSTRUCTION OF BRIDGES IN STONE, IRON AND WOOD," including the Equibrium of Arches, the mathematical principles of the Oblique Arch, Suspension Arch, etc., Construction of Foundations in Water, Centering, Oblique Arches, etc., the application of Iron to Railroad Structures, Practical Tunnelling, Suspension Bridges, etc.; illustrated by numerous accurately executed Plans, Elevations, Sections and Details of Stone, Iron and Wood Bridges, Viaducts, Tunnels, Culverts, Machines, etc., constructed by the most eminent Architects and Engineers in Europe and the United States, and numerous Original Designs for Bridges, Viaducts, Culverts, etc. The whole calculated to meet the exigencies of Engineers, and assist Draughtsmen, Bridge Builders, Mechanics and Students. By George Duggan, Architect and Civil Engineer.

The present part contains beautifully executed plans, elevations, sections, and details of the Iron Lattice Bridge 140 feet span over the canal in the suburbs of Dublin on the line of the Dublin and Drogheda R.R., Plans, elevations and sections of the Timber Bridge over the Schuylkill, at Market st., Philadelphia, with Arches 160 and 190 feet span. Plans, elevations and sections of a Timber Bridge with Arches 155 and 200 feet span over the Delaware. Also, plans, elevations, sections and details of Lattice and Frame Wood Bridges, explanatory of Nathaniel Towns and Colonel S. H. Long's methods of constructing Bridges of Wood, with the continuation of the Articles on Coffer dams, Concrete, Limes, Mortars, Cements, etc.

Published by George Duggan, 300 Broadway, New York, to whom all communcations should be addressed and subscriptions forwarded.

☞ Parties remitting Mr. Duggan $5. and the remainder $4 when they have been supplied with the first six parts of the "Theoretical and Practical Treatise on Bridge Building, etc.," shall receive it monthly as published. To those making Mr. Duggan a present remittance of $9, the work will be forwarded post free to any part of the United States.

Great American Engineering

AND MECHANICAL WORK, just published in medium folio One Dollar, 75 cts. to Subscribers.

Part X. of "Specimens of the Stone, Iron & Wood Bridges Viaducts, Tunnels, Culverts, &c., &c., of the United States Railroads." By George Duggan, Architect and Civil Engineer.

The present part contains beautifully executed plans, elevations, and sections of the Timber Bridge with Arches 136 feet span, over the Mohawk river, on the line of the Utica and Schenectady R.R. Plans elevations, sections and isometrical views of Timber Piers 100 feet high, a Timber Bridge of 55 feet span, and Ice Breakers, on the line of the Little Schuylkill and Susquehanna R.R.

Also plans, elevations, sections, isometrical views and details of an Iron Bridge 356 feet long, with Arches 81 feet span, erected by the N. York Iron Bridge Co. over Moores Creek, on the line of the Virginia Central R.R., and plans, elevations and sections of an Iron Plank Road Bridge 160 feet span, erected over Buffalo creek by the same company, with a description of Col. Long's method of constructing Bridges in Iron, and an explanation of the causes that led to the failure of the Iron Bridge 60 feet span, near Lackawaxen, on the line of the New York and Erie R. R., at midday, on the 31st July last, by which several lives were lost, and a great amount of property destroyed.

Published by GEORGE DUGGAN,
300 Broadway, New York.

To whom all communications should be addressed and subscriptions forwarded.

Railroad Lanterns.

COPPER and Iron Lanterns for Railroad Engines, fitted with heavy silver plated Parabolic Reflectors of the most approved construction, and Solar Argand Lamps; manufactured by

HENRY N. HOOPER & CO.,
No. 24 Commercial St. Boston.

August, 16, 1849. 6m33

Gas Fixtures.

FIXTURES for Burning Gas for Lighting Public Buildings, Private Dwellings, Stores and Factories, manufactured by the subscriber in great variety. Orders by Mail, or left at the Factory on Causeway street, will be promptly attended to.

HENRY N. HOOPER & CO.

Boston, March 23, 1850. 6m13

TO RAILROAD COMPANIES, CAR MANUFACTURERS, etc.

THE Undersigned hereby gives public notice, that the Commissioner of Patents, pursuant to his decision in relation thereto, on the 8th day of October, 1850, issued to him a Patent for the sole right to manufacture, and exclusive use of the INDIA RUBBER CAR SPRING, on account of priority of invention of said Spring. F. M. RAY.

New York, Oct. 23, 1850.

Iron Trade of Pennsylvania.

DOCUMENTS and Statistics relating to the Manufacture of Iron in the State of Pennsylvania—giving a history of the manufacture from its commencement to this date, illustrated by diagrams. Also tables giving the address and capacity of every establishment in the State. Prepared by direction of the late convention of the trade held in Philadelphia. For sale by

LINDSAY & BLACKISTON, Philadelphia.
FIELDING LUCUS, Jr., Baltimore.
HENRY G. NICHOLS, 79 Water st., N. Y.
or at this office—price $1 00.

It will be sent by mail to any order enclosing the money, and post paid.

Emerson's Patent Ventilator,

ADAPTED to Cars, Engine houses, Public Halls, Factories, Churches, School Houses, Dwellings, Chimney Flues, etc.

This Ventilator is stationary, and cannot get out of order. It is constructed in such conformity to certain ascertained laws of pneumatics, as to insure a constant draft outward, whatever may be the changing direction of the wind. The Massachusetts Mechanic Association have awarded a gold medal to the Inventor, and the Manufacturers have already disposed of over 3,000 of the article. Manufactured and sold by

CHILSON, ALLEN, WALKER & Co.,
351 Broadway, New York.

Providence Tool Co.,

MANUFACTURERS OF

Plane Irons, Tooth Irons, Soft Moulding and Rabbet Irons, Cornice Irons, Plow Bitts, and Planing Machine Knives:

NUTS, WASHERS AND BOLTS.

—ALSO—

PLATE HINGES AND PICK AXES.

They are prepared to execute orders for all descriptions of Cold Punching and Job Work.

WM. FIELD, Agent. RUFUS WATERMAN, Treas.

PROVIDENCE, R. I.

Lovegrove's Patent Cast Iron Water and Gas Pipes.

THE Subscriber, the Inventor and Patentee of the Centrifugal mode of giving form to metallic substances while in a molten state, is preparing to make Cast Iron Water and Gas Pipes, of any dimensions, at prices much lower than they can be made in the old manner, and the pipes warranted to stand a pressure of three hundred pounds to the square inch, and to be soft enough to drill. Steam Engines and all kinds of machinery. Cast Iron Doors and Frames, and Mill Castings of every description, made to order.

THOMAS J. LOVEGROVE,
Machinist and Founder,
West Falls Avenue, below Pratt st., Baltimore.

Railroad Letting, in Virginia.

PROPOSALS will be received at the office of the chief engineer of the Richmond and Danville railroad, until 9 o'clock A. M., Monday, the 10th of March, to be decided the 13th of the same month, for doing all the grubbing, clearing, grading, ditching and masonry, on the Richmond and Danville railroad, in the counties of Amelia, Nottoway, Prince Edward, Lunenburg and Charlotte, comprehending about 45 miles of road.

Profiles and specifications can now be seen at the office of the company in Richmond; and after the 10th of February, at the offices of the resident engineers, on the line, at Burkeville and Keysville.

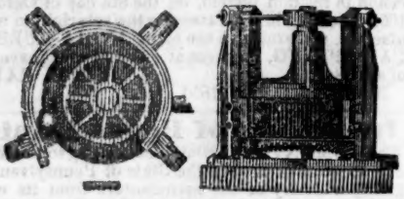
By order of the board of directors,

ANDREW TALCOTT,
Chief Engineer R. & D. railroad.

Engineering department R. & D. R. R. Co., Richmond, Jan. 22, 1851.

MACHINERY.

Henry Burden's Patent Revolving Shingling Machine.



THE Subscriber having recently purchased the right of this machine for the United States, now offers to make transfers of the right to run said machine, or sell to those who may be desirous to purchase the right for one or more of the States.

This machine is now in successful operation in ten or twelve iron works in and about the vicinity of Pittsburgh, also at Phœnixville and Reading, Pa., Covington Iron Works, Md., Troy Rolling Mills, and Troy Iron and Nail Factory, Troy, N. Y., where it has give universal satisfaction.

Its advantages over the ordinary Forge Hammer are numerous: considerable saving in first cost; saving in power; the entire saving of shingler's, or hammerman's wages, as no attendance whatever is necessary, it being entirely self-acting; saving in time from the quantity of work done, as one machine is capable of working the iron from sixty puddling furnaces; saving of waste, as nothing but the scoria is thrown off, and that most effectually; saving of staffs, as none are used or required. The time required to furnish a bloom being only about six seconds, the scoria has no time to set, consequently is got rid of much easier than when allowed to congeal as under the hammer. The iron being discharged from the machine so hot, rolls better and is much easier on the rollers and machinery. The bars roll sounder, and are much better finished. The subscriber feels confident that persons who will examine for themselves the machinery in operation, will find it possesses more advantages than have been enumerated. For further particulars address the subscriber at Troy, N. Y. P. A. BURDEN.

Railroad Spikes and Wrought Iron Fastenings.

THE TROY IRON AND NAIL FACTORY, exclusive owner of all Henry Burden's Patented Machinery *for making Spikes*, have facilities for manufacturing large quantities upon short notice, and of a quality unsurpassed.

Wrought Iron Chairs, Clamps, Keys and Bolts for Railroad fastenings, also made to order. A full assortment of Ship and Boat Spikes always on hand.

All orders addressed to the Agent at the Factory will receive immediate attention.

P. A. BURDEN, *Agent*,
Troy Iron and Nail Factory, Troy, N. Y.

CHILLED RAILROAD WHEELS.—THE UNdersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of spokes or discs, by a new process which prevents all strain on the metal, such as is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St., below 13th,
Philadelphia, Pa.

Brown's Old Established SCALE WARE HOUSE,

NO. 234 WATER ST., NEW YORK.

THE Subscriber, Practical Manufacturer of Scales of every description, respectfully asks the attention of Railroad Companies to his Improved Wrought Iron Railroad Track and Depot Scales which for strength, durability, accuracy, convenience in weighing, and beauty of workmanship, are not surpassed by any others in this country.

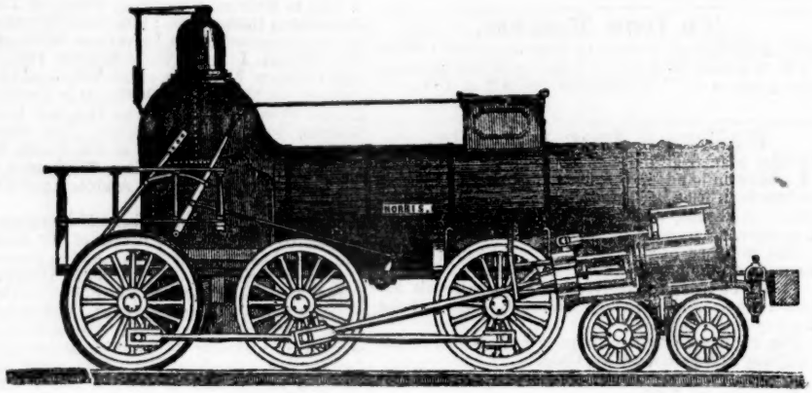
He is aware that this is rather a bold assertion for him to make, yet he can say with confidence that they have but to be tried to give them precedence over all others. J. L. BROWN.

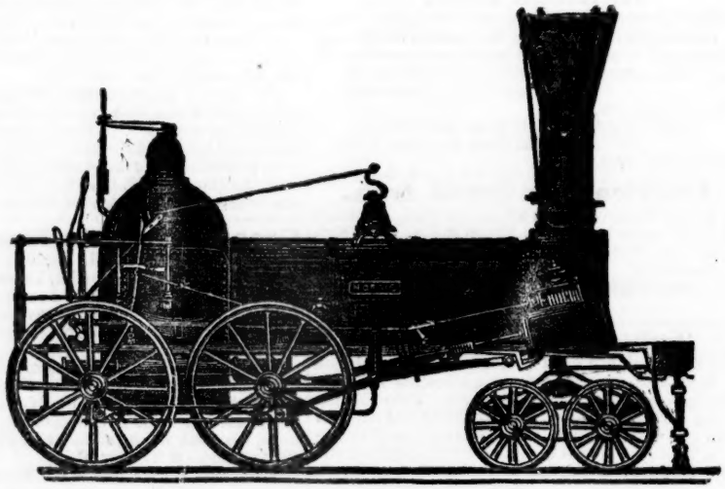
☞ Bank Scales made to order, and all Scales of his make Warranted in every particular.

Referen es given if required

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Wrought Iron Tyres made of any required size—the exact diameter of the Wheel Centre, being given, the Tires are made to fit on same without the necessity of turning out inside.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS, BROTHERS.

PATENT MACHINE MADE HORSE-SHOES.

The Troy Iron and Nail Factory have always on hand a general asssortment of Horse Shoes, made from Refined American Iron.

Four sizes being made, it will be well for those ordering to remember that the size of the shoe increases as the numbers—No. 1 being the smallest. P. A. BURDEN, *Agent*,
Troy Iron and Nail Factory, Troy, N. Y.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,
☞ *So.e Manufacturers,* ☜
No. 85 Liberty St.
NEW YORK.

And in the principal cities and towns in the U. States.

☞ The Premium of the AMERICAN INSTITUTE was awarded to the *Etna Safety Fuse* at the late Fair held in this city.

November 3, 1849. 1y

COLUMBUS, OHIO,

Railroad Car Manufactory. RIDGWAYS & KIMBALL,

HAVE established at this central point, the manufacture of Passenger, Freight, Gravel and Hand Cars for Railroads, and assure all Western Railroad Companies that it will be their constant aim to procure the best materials and workmen, and to turn out the best kind of work at fair prices. Specimens may be seen on the Columbus and Xenia Railroad. The patronage of Railroad Companies is respectfuliy solicited. 1y8

FOR SALE.

THREE LOCOMOTIVES, Manufactured by M. W. Baldwin, of 10 tons weight, all in complete repair, and now running on the Columbia and Philadelphia Railroad.

For particulars apply to A. L. Roumfort, Supt. of said road, either at Philadelphia, or Parkersburg, Chester county. A. L. ROUMFORT,
Supt. Motive Power Col. & Philad. R.R.